STEARNS COUNTY LOCAL WATER MANAGEMENT PLAN AMENDMENT

Stearns County Environmental Services

This document amends the *Stearns County Local Water Management Plan 2008-2017* and is in effect until December 31, 2017

December, 2013

Contents

Abbreviations

AU	Animal Unit
BMP	Best Management Practice
BWSR	Board of Water and Soil Resources
CMBA	Central Minnesota Builders Association
CMWEA	Central Minnesota Water Education Alliance
CSP	Conservation Security Program
CRP	Conservation Reserve Program
CREP	Conservation Reserve Enhancement Program
DNR	Minnesota Department of Natural Resources
DWSMA	Drinking Water Supply Management Area
EQIP	Environmental Quality Incentives Program
ESD	Environmental Services Department, Stearns County
HHW	Household Hazardous Waste
IBI	Index of Biological Integrity
ISTS	Individual Sewage Treatment System
LA	Lake Association
LIDAR	Light Detection and Ranging (a tool for mapping surface elevations)
LWM	Local Water Management
MDA	Minnesota Department of Agriculture
MECA	Minnesota Erosion Control Association
MDH	Minnesota Department of Health
Mg/L	Milligrams per liter
MIDS	Minimal Impact Design Standards
MN	Minnesota
MGS	Minnesota Geologic Survey
MPCA	Minnesota Pollution Control Agency
MRWA	Minnesota Rural Water Association
MS4	Municipal Separate Storm Sewer System
NFCR	North Fork Crow River
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
PCB	Polychlorinated biphenyls
SCSU	St. Cloud State University
SRWD	Sauk River Watershed District
SSTS	Subsurface Sewage Treatment System
STORET	Storage and Retrieval (of Data)
SWCD	Soil and Water Conservation District
SWP	Source Water Protection
SWPA	Source Water Protection Area

SWPP	Source Water Protection Plan
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
USGS	United States Geologic Survey
UMRSWPP	Upper Mississippi River Source Water Protection Project
VOC	Volatile Organic Compound
WD	Watershed District
WHP	Wellhead Protection
WHPA	Wellhead Protection Area
WMAC	Water Management Advisory Committee

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Executive Summary

Background

The *Stearns County Local Water Management Plan 2008-2017* is the fourth Local Water Management Plan to be developed and adopted in Stearns County. The current *Plan* was updated in accordance with Minnesota Statutes 103B and will be in effect until December 31, 2017. The *Plan* was developed through involvement with the Water Management Advisory Committee, local citizens, representatives from local organizations and agency staff.

After a Local Water Management Plan has been in effect for five years, the Minnesota Board of Water and Soil Resources requires the local government to review and amend its Plan. The development of this amended plan was guided by three Task Forces, one for each of the Priority Concerns. The Task Forces reviewed and amended the Objectives and Action Items to reflect current issues and concerns. The Priority Concerns remain the same as in the current Plan. The Stearns County Planning Commission reviewed and approved this Amendment.

The amended *Stearns County Local Water Management Plan 2008-2017* will remain in effect until it is updated in 2018. The Task Forces will be reconvened on an annual basis to review progress in achieving Plan objectives and to identify emerging issues that should be incorporated into the Plan through the amendment process.

Purpose of Local Water Management Planning

The goal of Local Water Management Planning is to guide natural resource protection and restoration on the local level. The Plan seeks to identify and address existing and potential problems and opportunities for the protection and management of water and land resources within the County. An essential part of local water management planning is the identification of goals, objectives and action items to protect, improve and manage the natural resources of the County.

Watersheds in Stearns County

All the drainage in Stearns County ultimately flows to the Mississippi River. There are five major watersheds in Stearns County. The descriptions and a map of the watersheds are as follows:

Chippewa River watershed covers approximately 88 acres in the western part of Crow Lake Township. Approximately twelve acres of unnamed PWI lake 61-1P is located within Stearns County. The rest of the watershed is in cultivated agriculture.

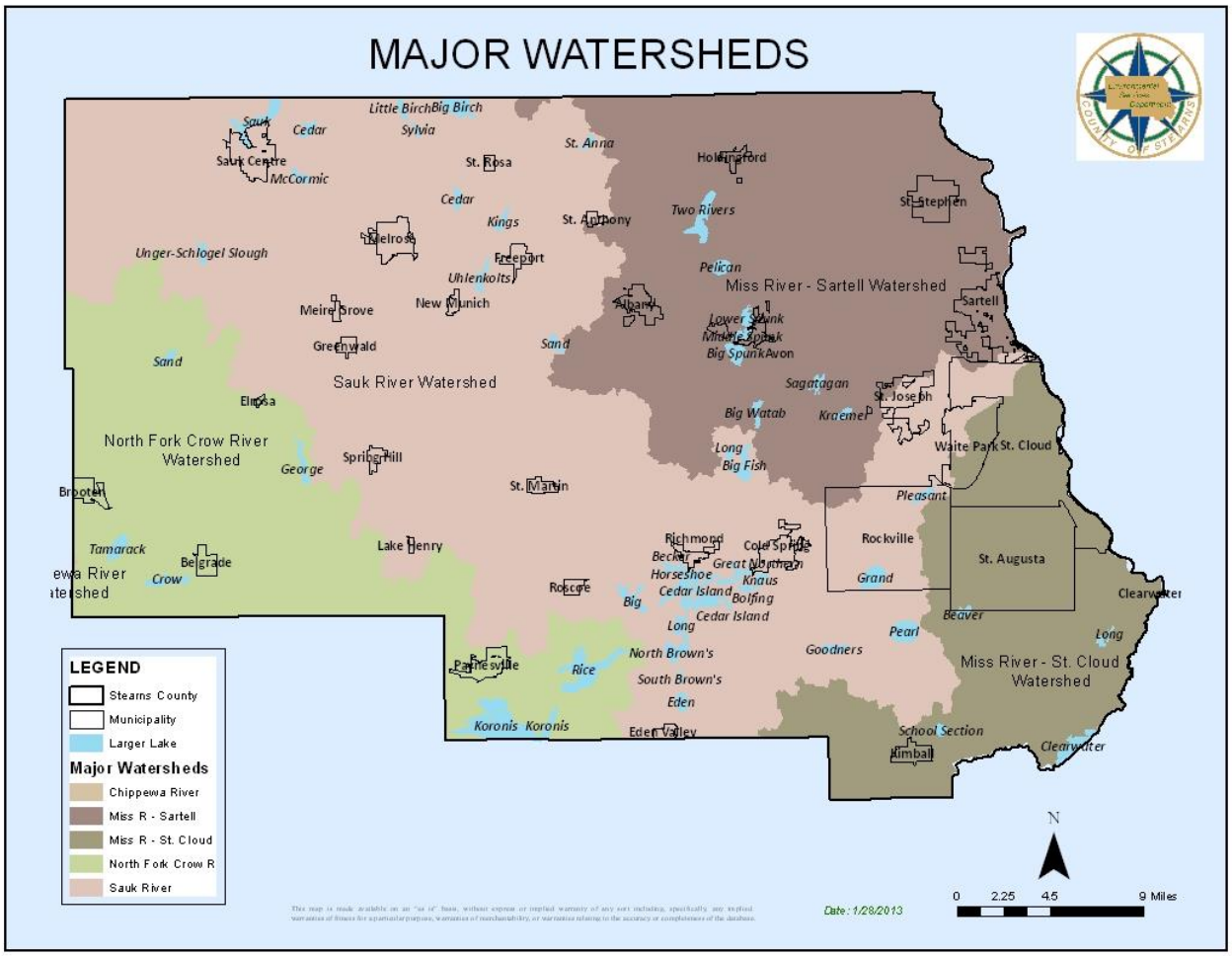
Mississippi River - St. Cloud watershed is in southeast Stearns County and covers approximately 160 square miles within Stearns County. Approximately 72 percent is agricultural land (including pasture and open areas) and 16 percent is forest. Major water bodies are Beaver Lake and the Clearwater Chain of Lakes. Kimball, St. Augusta and parts of Waite Park, Rockville and St. Cloud are located in this watershed.

Mississippi River –Sartell watershed covers approximately 280 square miles in Stearns County. The watershed is located in northeastern Stearns County and contains the major water bodies of Pelican Lake, Two Rivers Lake, Big Watab Lake and Big, Middle and Lower Spunk Lakes. Land cover in the watershed is

comprised of approximately 75 percent agricultural land (including pasture and open areas) and 18 percent forest. Municipal areas of Avon, Albany, Holdingford, Sartell and some of St. Cloud are located in this watershed.

North Fork Crow River watershed is located in the southwestern portion of the County, with 254 square miles in Stearns County. Land cover is approximately 88 percent agricultural land (including pasture and open areas) and 5 percent forests. Municipal areas include Paynesville, Brooten and Belgrade. Major water bodies are Rice Lake and Koronis Lake.

The Sauk River watershed is the largest watershed in Stearns County, covering approximately 640 square miles of the County. The Sauk River enters the County at Sauk Lake and flows southeast to the Sauk River Chain of Lakes, then flows northeast to its confluence with the Mississippi River between Sartell and St. Cloud. The land use is primarily agricultural, although the Cities of Sauk Centre, Melrose, Richmond, Cold Spring, St. Joseph and part of St. Cloud are in the watershed. Major water bodies in the watershed include Sauk Lake, Big Birch Lake, the Sauk Chain of Lakes, Grand Lake, Pearl Lake and Big Fish Lake.



Description of Priority Concerns

The identification of the Priority Concerns in the *Stearns County Local Water Management Plan 2008-2017* reflects input from public surveys and public meetings. The Priority Concerns are intended to encompass the natural resource issues that local citizenry and local agencies regard as the most critical for the health of our environment and are subject to local control.

Source Water Protection: Description from *Plan 2008-2017*

Providing safe drinking water to its citizens is a primary responsibility of government. A number of public water suppliers in Stearns County are providing drinking water to the residents from vulnerable aquifers.

The City of St. Cloud obtains its drinking water from the Mississippi River. The St. Cloud Source Water Protection – Priority Area A (determined by an eight hour time-of-travel for water to reach the surface intake) comprises about 89 square miles within Stearns County. Management in this area is designed to address potential sources of contamination that present an acute health concern to water users. The St. Cloud Source Water Protection – Priority Area B comprises an area of approximately 2,432 square miles. Management of this area is designed to protect water users from chronic health effects related to low levels of chemical contamination. There are many challenges to the inventory and management of potential contaminant sources in Area B due to the large geographic area and the numerous governing agencies.

The goal is to cooperate with and assist public water suppliers who are developing and implementing Source Water Protection Plans. "Public wells" include wells that serve water to municipalities, manufactured housing developments, businesses, schools and other facilities that serve water to more than 25 people on a regular basis. The following is a partial list of the identified Action Items taken from the original *Plan 2008-2017*:

- Promote and participate in the education of the community about the importance of drinking water protection.
- Focus inspection and enforcement of feedlot and land application rules within shoreland and Drinking Water Supply Management Areas (DWSMA's).
- Explore development of planning and zoning tools, such as an overlay district, which promote proactive land use planning to protect drinking water supplies.
- Explore development of additional protective measures for aggregate mining in wellhead protection areas overlying geologically sensitive aquifers.
- Cooperate with cities to inventory Subsurface Sewage Treatment Systems (SSTS) located within vulnerable areas of the DWSMA and support innovative approaches towards inspection programs.
- Explore the possibility of supplemental incentive funding to existing programs for vegetative buffers, set aside programs and Best Management Practices (BMP's).

Previous Estimated Cost	$1,400,000
Amended Estimated Cost	$1,242,500

Development Impacts: Description from *Plan 2008-2017*

Stearns County is experiencing strong residential and commercial development pressures. The construction of buildings, roads and parking lots increases the amount of impervious cover. The resulting increased stormwater runoff and erosion can cause a number of negative changes to stream flow, aquatic habitat and water quality.

The goal is to minimize the impact of new development and redevelopment on surface and ground water resources. The following is a partial list of the identified Action Items taken from the original *Plan 2008-2017*:

- Encourage low impact development and better design strategies on all new and redevelopment projects.
- Promote land and water best management practices in shoreland, such as vegetative buffers and routing rainwater off roofs away from surface water.
- Seek to have a detailed Natural Resource Inventory completed for the purpose of identifying sensitive natural areas.
- Seek to require that any proposed project in shoreland that will increase the total suspended solids or total phosphorus loading will be required to establish a Best Management Practice to mitigate the increased loading
- Improve quality of stormwater runoff and manage flow, volume and direction.
- Improve coordination of the Water Management Plan with the National Pollutant Discharge Elimination System (NPDES) permit requirements of Stearns County and the Municipal Separate Storm Sewer System (MS4) communities within the county.

Previous Estimated Cost	$1,390,000
Amended Estimated Cost	$1,927,200

Impaired Waters; Description from *Plan 2008-2017*

Stearns County has a number of water resources that have been listed by the Minnesota Pollution Control Agency (MPCA) as impaired, which means that the water resource does not meet its designated use. Prior to the writing of the *Stearns County Local Water Management Plan 2008-2017* much of the water resources in the County had not been monitored to MPCA standards to determine whether impairments exist.

The goal was to determine the water quality status of at least the larger, more publicly used water resources in the County, protect those water resources that currently support their designated uses and, where needed, improve those that do not. The following is a partial list of the identified Action Items taken from the original *Plan 2008-2017*:

- Annually review the sampling data and determine continuing monitoring needs.
- Coordinate and implement monitoring and analysis.
- Provide assistance to County landowners implementing agricultural Best Management Practices on working lands to reduce soil erosion, protect stream banks and improve water resources.

- Educate landowners about proper land application of nutrients and pesticides.
- Develop/support workshops for volunteer monitors
- Establish and maintain vegetative buffers in the shore and bluff impact zones.

Previous Estimated Cost	$9, 365, 000
Amended Estimated Cost	$10,501,000

Accomplishments toward Original Implementation Plan (2008-2012)

The *Stearns County Local Water Management Plan 2008-2017,* containing the original Goals, Objectives and Action Items*,* is located in the Appendix. A detailed summary of the some of the progress made in the period 2008 to 2012 towards meeting the *Plan 2008-2017* goals can also be found in the Appendix. The following is a brief summary of the accomplishments made towards the original goals.

Source Water Protection, Accomplishments 2008-2012

The ability of public water supplies to provide clean, healthy drinking water continues to be of the highest importance. There were twelve Stearns County public water suppliers with approved Wellhead Protection Plans in 2008. Since that time six more public water suppliers have developed Wellhead Protection Plans (Holdingford, St. Martin, Rockville, Kimball, Roscoe and St. Joseph) and six are in the process of developing Wellhead Protection Plans (Albany, Avon, Freeport, Belgrade, Brooten and Wildwood Manor (St. Joseph apartment building)).

To be effective, the Wellhead Protection Plans must be implemented and many of the public water suppliers with Wellhead Protection Plans have struggled with implementation. The ability of the Stearns County Soil and Water Conservation District to better respond to the needs of public water suppliers in the development and implementation of their Wellhead Protection Plans was increased tremendously by the addition to staff of an Urban Conservationist in 2007. The Urban Conservationist has been able to assist with implementation of the Wellhead Protection Plans by securing grants for the public water suppliers for initiatives such as well sealing, assisting with well inventories, developing and overseeing numerous programs for agricultural producers, and organizing nitrate clinics.

The Central Minnesota Water Education Alliance is a coalition of central Minnesota cities, Stearns County and other organizations formed to provide educational outreach to promote water quality stewardship. It was formed in 2006 to assist NPDES permit holders meet the civic engagement requirements of their permits in a cost-effective and efficient manner. The coalition was expanded to include public water suppliers implementing Wellhead Protection and assist them with the civic engagement requirements of their Wellhead Protection Plans. The educational campaign has resulted in many high-quality products and activities, including a rain barrel and compost bin sale, a video contest for high school students, representation at six to seven community events each year, digital outdoor advertising, and radio and newspaper ads. The best measurement of the success of the campaign is its website traffic. The number of “unique hits” to the website continues to increase, with 159,833 in 2012.

The most frequently visited page on the website is the blog, which is written by the CMWEA members. The website is http://www.mnwaterconnection.com/

The Stearns County SWCD spearheaded a successful initiative to secure funding for conservation easements in DWSMA's from the Clean Water Fund. Perennial crops and/or native vegetation can reduce nitrate leaching losses by a factor of 30 to 50 times less than conventional row crop systems. This conservation easement program will leverage local, state and federal resources (similar to CREP) to protect drinking water supplies. The conservation easement program will target public water suppliers with elevated nitrate concentrations, especially suppliers approaching or exceeding health standards.

The Stearns County Land Use and Zoning Ordinance has been modified to provide better protection for drinking water with stricter requirements for wet detention basins in areas of high groundwater vulnerability. The Ordinance was amended to include consideration of DWSMA's when processing land use or structure permit applications.

Non-compliant Subsurface Sewage Treatment Systems can potentially negatively impact the quality of drinking water. Stearns County, the North Fork of the Crow Watershed District, the Sauk River Watershed District and several lake associations have partnered in inspection initiatives of SSTS in shoreland areas and throughout the NFCR watershed district. Approximately 3,000 systems were surveyed and those that were not compliant either have been upgraded or are in the process. Stearns County secured funding from Clean Water Fund to upgrade 98 systems in low-income households.

Household hazardous waste (HHW) that is improperly disposed of can negatively impact drinking water. Stearns County continues to conduct a comprehensive HHW collection program at communities and in 2009 constructed a state-of-the-art facility to receive, process, and ship household hazardous waste. Stearns County also established three pharmaceutical drop boxes for citizens to dispose of unused and unwanted medications, thus keeping them out of water supplies.

Development Impacts, Accomplishments 2008-2012

One of the priorities of the *Plan 2008-2017* was to place in ordinance incentives and/or requirements that land use changes are done in such a way that natural resources are impacted to the least extent possible. The Stearns County Land Use and Zoning Ordinance was amended to contain provisions for Natural Resources Conservation Overlay Design. This allows townships to identify overlay areas with specific natural resource value, within which development is allowed only by carefully siting houses in clusters and preserving large portions of the development site that have conservation value. The allowance of additional lots is the incentive. The Land Use and Zoning Ordinance was also modified to include provisions for a density bonus if residential open space developments in shoreland are done following low-impact design principles.

The Land Use and Zoning Ordinance was modified to include protection of the native plant communities identified in the DNR's Native Plant Communities and Rare Species map by placing restrictions on development if native plant communities are present.

The Land Use and Zoning Ordinance was amended to require mitigation with the approval of after-the-fact shoreland alteration permits. The Governor's Alternative Shoreland Standards as pertains to resorts were adopted in ordinance.

Numerous lakescaping projects and rain gardens have been installed in already-developed areas. The SWCD was awarded a Clean Water Assistance grant for a watershed-based stormwater infiltration project near Middle Spunk Lake. There should be installation of approximately 30 infiltration practices (rain gardens, infiltration swales and infiltration basins). A Clean Water Assistance grant and two Clean Water Partnership grants enabled the SRWD to address stormwater runoff concerns in the cities of Cold Spring, St. Cloud, St. Joseph and Rockville. In 2011-2012 the SRWD's projects in Stearns County included 55 rain gardens, 24 shoreland/riparian projects, and 13 stormwater projects. The SWCD instituted the requirement for a permanent Shoreland Preservation Agreement on property which has received financial and/or technical assistance from the SWCD for shoreland projects.

CMWEA has run an effective educational campaign on the negative effects of stormwater runoff and uncontrolled erosion. The MS4 communities have benefited by belonging to CMWEA and thus meeting educational requirements contained in their NPDES permits. The success of the campaign is discussed further in the section on Source Water Accomplishments.

Permanent stormwater practices can be required as part of the platting process, a variance, conditional use or construction site permit request. The long-term operation and maintenance of these practices can be an issue. Stearns County inventoried all the industrial and residential storm water ponds that have been approved by the County since 2000 and now does regularly scheduled inspections.

Impaired Waters, Accomplishments 2008-2012

Objective A of Impaired Waters Priority Concern was primarily focused on reviewing the monitoring results from STORET, determining from the monitoring results which lakes, rivers and streams of the County needed further monitoring to allow a determination of impaired status, and developing and carrying out a monitoring plan such that the major water bodies could be assessed as either impaired or unimpaired. "Major" lakes were defined as those of greater than 200 acres and having significant population density. Monitoring was completed through funding from the County's Water Management Plan fund, a Surface Water Assessment Grant, and monitoring by the watershed districts. As a result of the monitoring conducted by the County and the watershed districts in 2008-2010, all the major lakes in the County had enough monitoring data by 2010 to be assessed for impairment status.

SSTS were inspected within the riparian area along the segments of the Sauk River that are impaired for *E.coli* and those that did not meet State standards were upgraded.

The *Plan 2008-2017* put a priority on offering environmental education to all the students in the County. Through a number of partners, including the Sauk River watershed District, Paynesville and ROCORI Wellhead Protection communities and the City of St. Cloud, the water festival program was expanded so that all fourth graders in the County have an opportunity to attend a water fest.

The SWCD has hosted a number of civic engagement events promoting agricultural BMP's, new technology and better land stewardship, e.g. a Methane Digester Field Day, a Field Day on Woodchip Bio-filters for the Treatment of Runoff , a Wildlife Habitat Management on Working Agricultural Lands Field Day and Certified Crop Advisor training events.

SWCD, Pheasants Forever, the Rice Lake Association, Koronis Lake Association, North Fork Crow River Watershed District and USDA partnered to promote CRP and shoreline restoration on the lakes.

Stearns County is the sponsor and fiscal agent for the Pelican Lake of St. Anna Clean Water Partnership Project. After the sampling results are compiled, modeling of the nutrient inputs will identify the amounts of nutrient loading that the subwatersheds are contributing and a plan will be developed, with the assistance of the Stearns County SWCD, to get the optimum benefit from installation of BMP's.

The SWCD continues to partner to establish the Conservation Marketplace Midwest. One of the reasons that this is significant is the continuing conversion of marginal agricultural land from programs such as CRP into production. An active Conservation Marketplace can potentially supplement the current incentive levels so that they more adequately compete with high crop prices.

The following table shows some of the conservation structures and practices implemented by the SWCD and NRCS since the *Plan* was adopted.

Conservation Structures and Practices Implemented by Stearns Soil and Water Conservation District and Natural Resources Conservation Service

Practices	2008	2009	2010	2011	2012
Nutrient Management Planning (# of acres)	26307	16767	17992	20,698	18192
Waste Management Systems	23	15	25	15	23
Lakescaping Projects (# of projects)	7	7	8	15	8
Unpermitted Manure Basin Investigations	34	13	14	13	8
Environmental Quality Assurance Assessments	23	18	10	9	3
Continuous Conservation Reserve Program (# of CCRP contracts)	113	120	52	17	11
CCRP (# of acres)	1885	2020	647	151	187
Conservation Reserve Program (General) (# of CRP contracts)		59	49	24	59
CRP General (# of acres)		2337	1689	461	1449
Total Active Contracts (# of CRP & CCRP acres)	29971	27928	28442	28866	28440

Environmental Quality Incentives Program Contracts (# of EQIP contracts)	53	54	70	72	73
Total Active EQIP Contracts (of contracts)	128	139	137	108	94
Conservation Security Program (# of contracts)	110	58	47	135	169
Conservation Security Program (# of acres)	30600	15846	23011	51998	65069
Sealing of unused wells		9	6	5	3
Raingardens				49	6

Unfulfilled Action Items

Source Water Protection, Unfulfilled Action Items 2008-2012

Action Item 1. B.3 calls for inspection of areas within DWSMA's and shoreland for proper application of nutrients and review of land application records. This has not been accomplished for a number of reasons. Feedlots with less than 100 Animal Units are not required to keep manure land application records and most don't have written records. The Environmental Services Department reviews whether or not manure land application records are kept during compliance or construction inspections at feedlots with 100 AU or more. However, a determination of correct application from a review of records and inspections of manure application to crop land have not been a feedlot work plan goal due to constraints on staff time. It has been determined that one-on-one education is often the most effective means of achieving compliance.

Action Item1. B.4 calls for inspection of NPDES II Construction Permits in the area of St. Cloud Priority Area A DWSMA. This was accomplished when there was an agreement between the ESD, SWCD and the MPCA to have an employee of Stearns County doing the inspections. This agreement expired in June 2009 and since that time inspections outside the municipal boundary of St. Cloud are conducted by an MPCA inspector on a complaint basis. The City of St. Cloud stormwater technician continues to inspect within the municipal boundaries and the County enforces the erosion control provisions of its Land Use and Zoning Ordinance.

Some of the public water suppliers with Wellhead Protection Plans have wanted inspections done of the SSTS in the vulnerable areas of their Drinking Water Supply Management Areas. Conducting SSTS inspections in the non-municipal areas of DWSMA's is an unresolved issue. The households which would be subject to an otherwise unrequired inspection are not necessarily the same households that will directly benefit from the protection of the public drinking water supply, and the municipality has no jurisdiction beyond its boundaries.

Development Impacts, Unfulfilled Action Items 2008-2012

The Natural Resources Conservation Design Overlay (Action Item 2.A.1) was put into Ordinance and has been utilized but its adoption has only been in a somewhat limited area. At this point only areas within the Avon Hills, which includes parts of four townships, have chosen the Natural Resources Conservation Design Overlay option.

A goal of the original Plan was the adoption of the Governor's Alternative Shoreland Standards (Action Item 2.A.9). The Standards were partially adopted at the County level, and the plan was to wait until it was adopted at the State level before proceeding further. This initiative is stalled at the State level and hasn't proceeded further at the local level.

Stearns County and SWCD had participated with the MPCA in a pilot program to have an employee at the local level ensure compliance with NPDES stormwater and erosion regulations construction permits. This program was terminated in June 2009. Since then the NPDES construction permits are inspected by MPCA on a complaint basis. A goal of the original *Plan (*Action Item 2.C.5) was to carry on the local NPDES inspections if the pilot program ceased, but there is not funding for this.

Impaired Waters, Unfulfilled Action Items 2008-2012

Objective A is concerned primarily with assessment of the waters of the County. In 2007 the MPCA initiated Intensive Watershed Monitoring, an approach that includes a 10-year rotation for assessing waters of the state on the level of Minnesota's major watersheds. The assessment of the North Fork Crow River was initiated in 2007, Sauk River watershed in 2008, Mississippi-St. Cloud watershed in 2009, and Mississippi-Sartell watershed will be in 2016. The monitoring objectives of the County have been largely suspended since the MPCA initiative will effectively replace much of the County's intended monitoring initiative.

Action Item 3.B.11 calls for inspection of areas within watersheds of impaired waters for proper application of nutrients and review of records of land application. This has not been accomplished for the reason stated above under Source Water Protection.

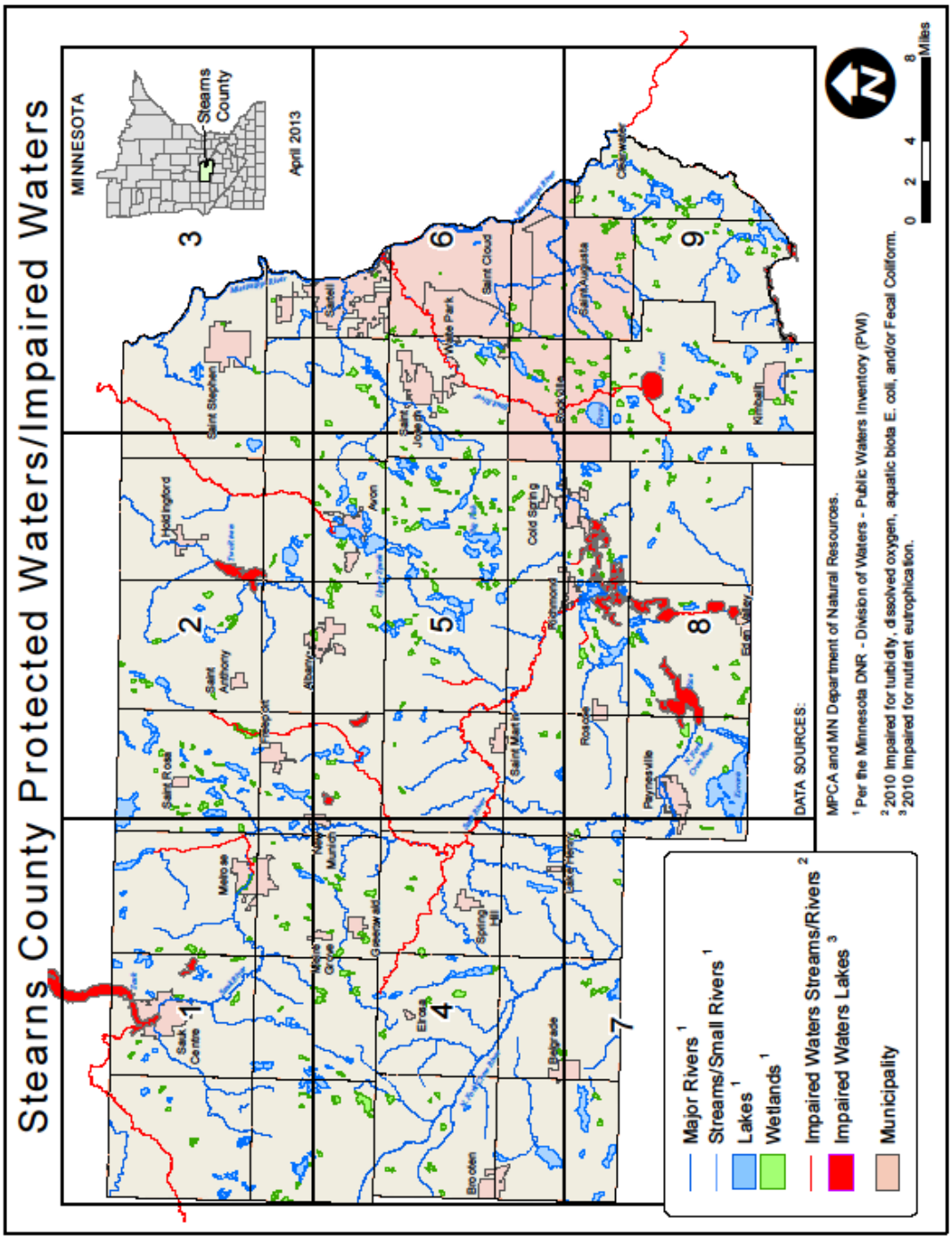
The establishment and maintenance of 50-foot permanently vegetated buffers in areas of agricultural use along public waters' shores was a goal of the *Plan 2008-2017* (Action Item 3.B.13). A grant from Clean Water Assistance Funds was requested to finance this initiative but was not funded. This initiative will continue to be part of the Implementation Plan.

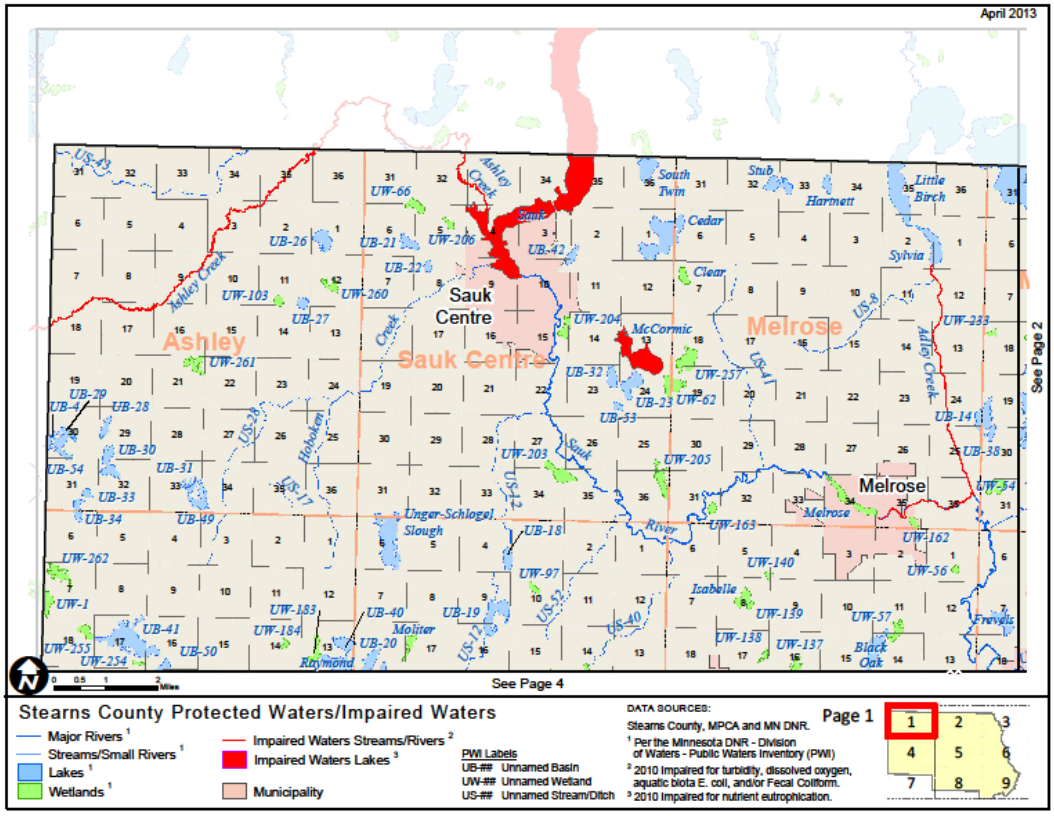
Amended Implementation Plan

Stearns County is blessed with 201 Public Waters Basins and 326 Public Waters Wetlands. All the Waters of the State that are located within Stearns County merit restoration, if impaired, or protection, if not impaired. The County will implement appropriate initiatives to attain the goal of every water body and water course meeting the State's water quality standards.

Maps of Lakes, Rivers, Streams and Wetlands, Including Impaired Waters

Following are maps of all the Public Waters. Those water bodies and water courses that are on the 2010 List of Impaired Waters are shown in red. The first map contains an index of the following nine maps. The impaired waters on the draft 2012 List of Impaired Waters are included in the Appendix.




April 2013
Sauk Centre
Melrose
Ashley
Melrose
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Stearns County Protected Waters/Impaired Waters
Major Rivers 1
Streams/Small Rivers 1
Lakes 1
Wetlands 1
Impaired Waters Streams/Rivers 2
Impaired Waters Lakes 3
Municipality
PWI Labels
UB-## Unnamed Basin
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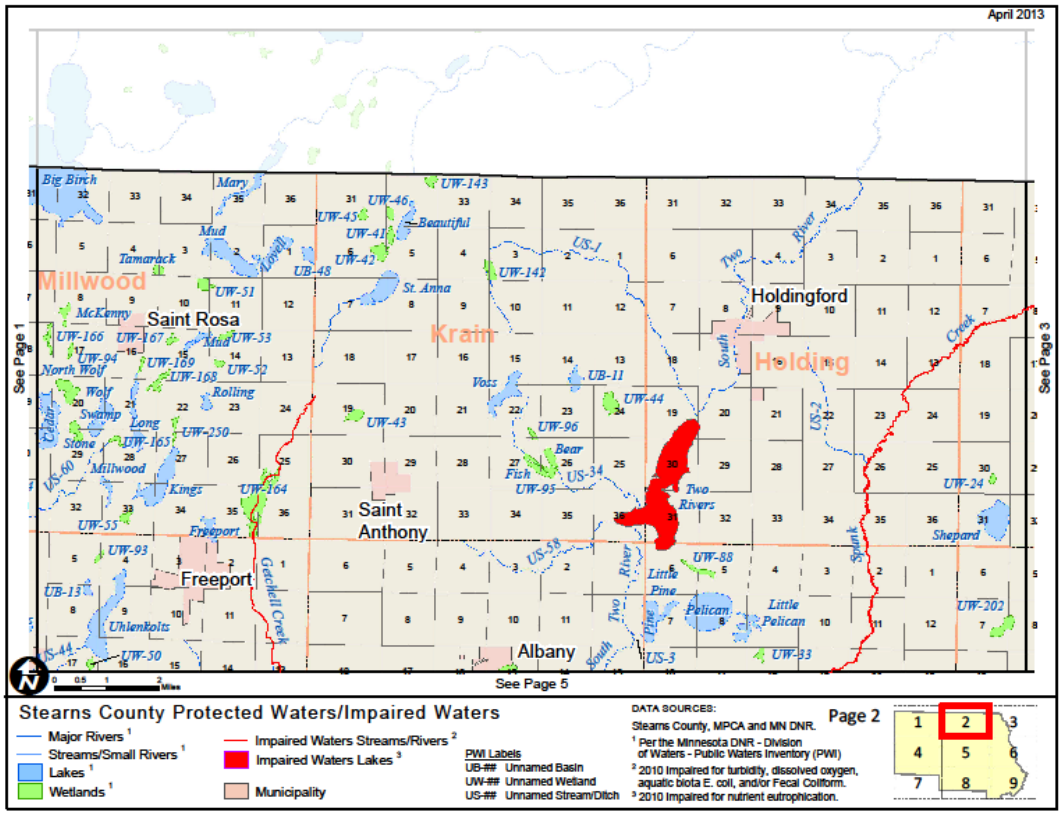
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Millwood
Saint Rosa
Krain
Holdingford
Holding
Saint Anthony
Freeport
Albany
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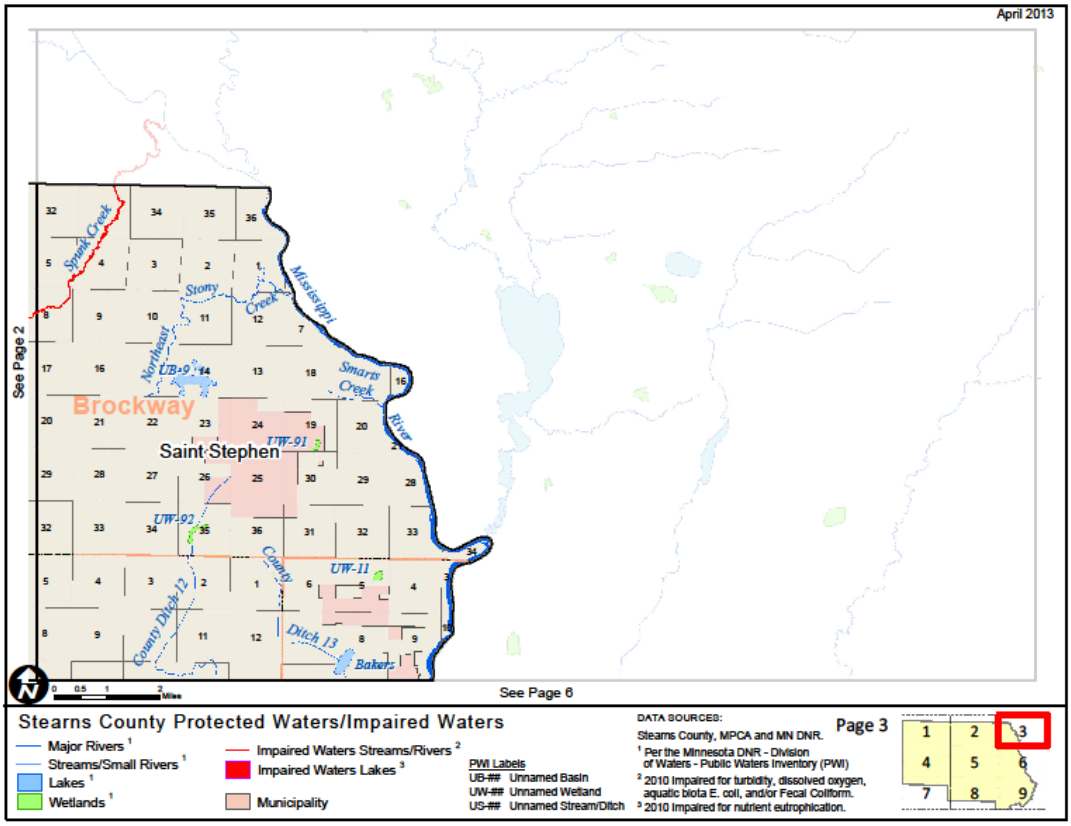
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Brockway
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Mississippi
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Northeast
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Baker
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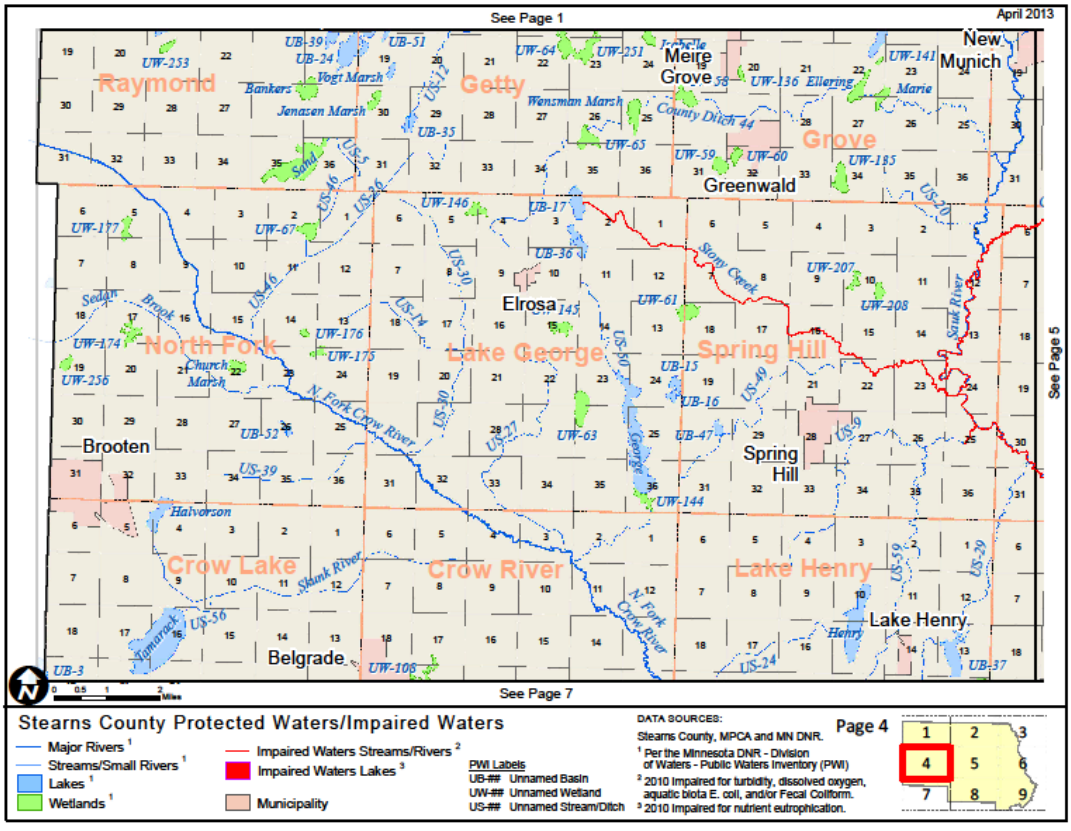
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Raymond
Getty
Meire Grove
New Munich
Grove
Greenwald
Elrosa
North Fork
Lake George
Spring Hill
Brooten
Spring Hill
Crow Lake
Crow River
Lake Henry
Lake Henry
Belgrade
Vogt Marsh
Bankers
Jenasen Marsh
Wensman Marsh
County Ditch 44
Ellering
Marie
Seelan Brook
Church Marsh
N. Fork Crow River
Halvorson
Skunk River
Tamarack
Henry
See Page 7
Stearns County Protected Waters/Impaired Waters
Major Rivers 1
Streams/Small Rivers 1
Lakes 1
Wetlands 1
Impaired Waters Streams/Rivers 2
Impaired Waters Lakes 3
Municipality
PWI Labels
UB-## Unnamed Basin
UW-## Unnamed Wetland
US-## Unnamed Stream/Ditch
DATA SOURCES:
Stearns County, MPCA and MN DNR.
1 Per the Minnesota DNR - Division of Waters - Public Waters Inventory (PWI)
2 2010 Impaired for turbidity, dissolved oxygen, aquatic biota E. coli, and/or Fecal Coliform.
3 2010 Impaired for nutrient eutrophication.
Page 4
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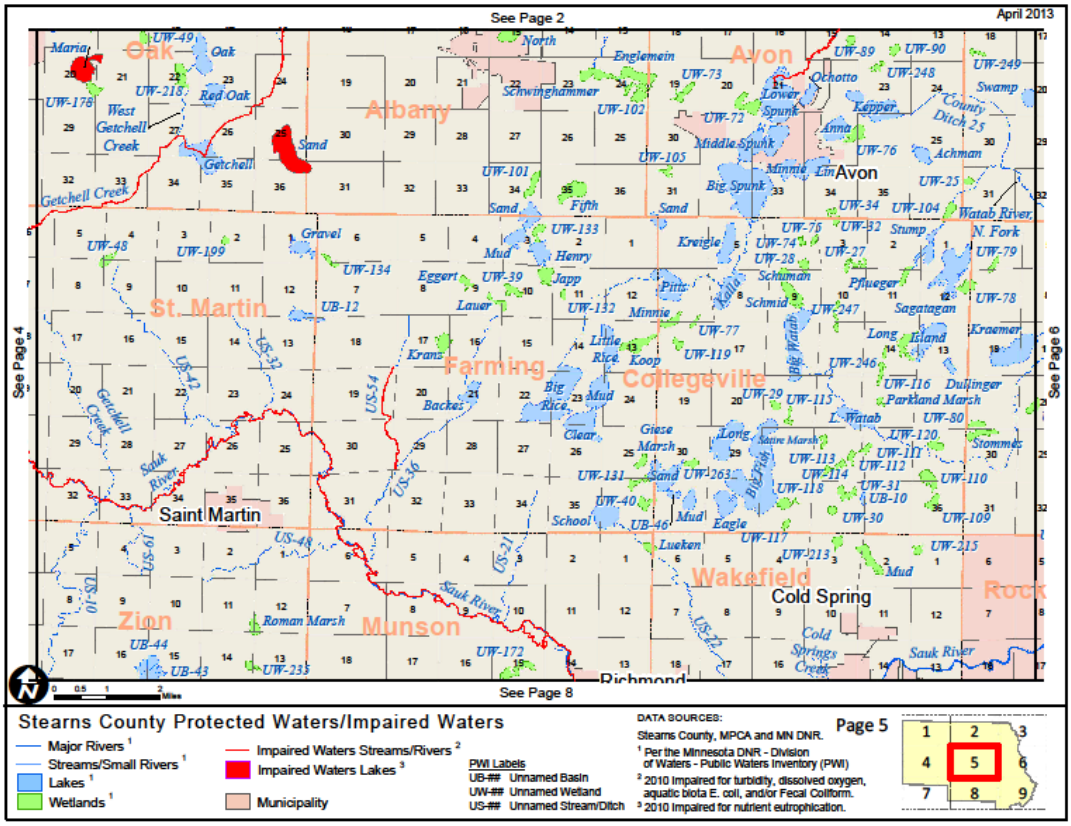
See Page 2
April 2013
See Page 4
See Page 6
See Page 8
Oak
Albany
Avon
St. Martin
Farming
Collegeville
Saint Martin
Wakefield
Cold Spring
Zion
Munson
Richmond
Stearns County Protected Waters/Impaired Waters
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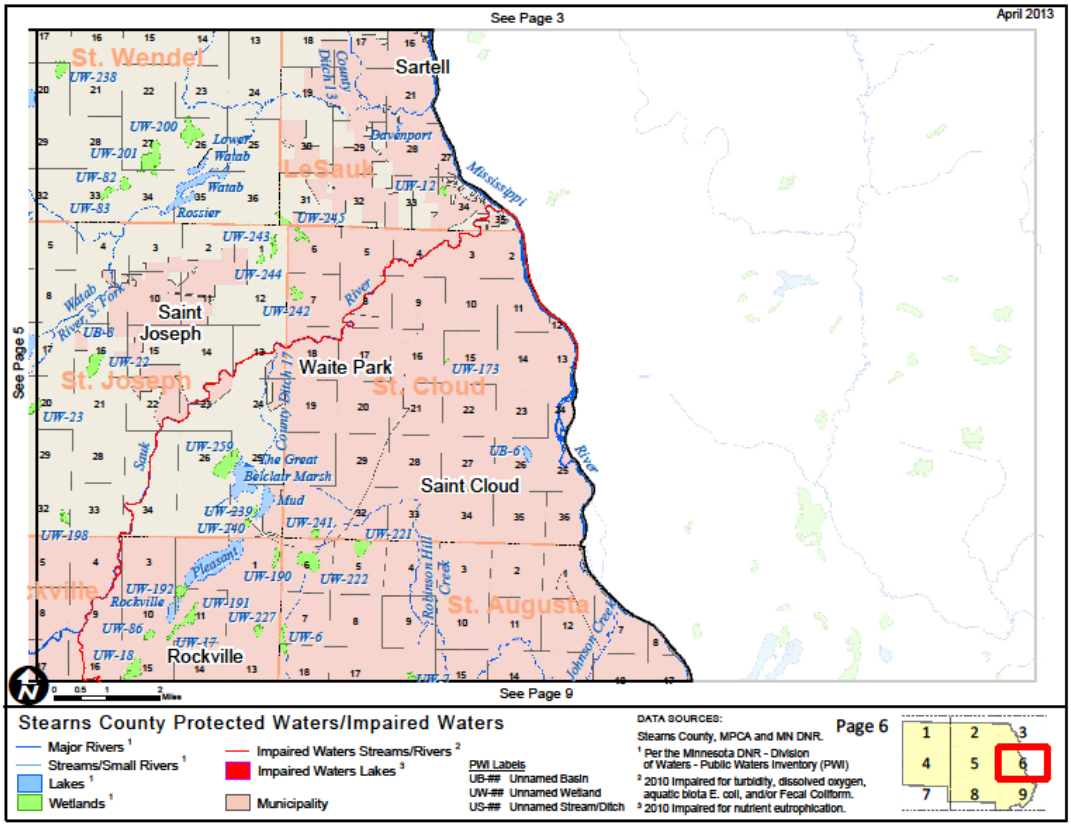
See Page 3
April 2013
See Page 5
See Page 9
St. Wendel
Sartell
LeSauk
Saint Joseph
Waite Park
St. Cloud
Saint Cloud
St. Augusta
Rockville
Stearns County Protected Waters/Impaired Waters
Major Rivers 1
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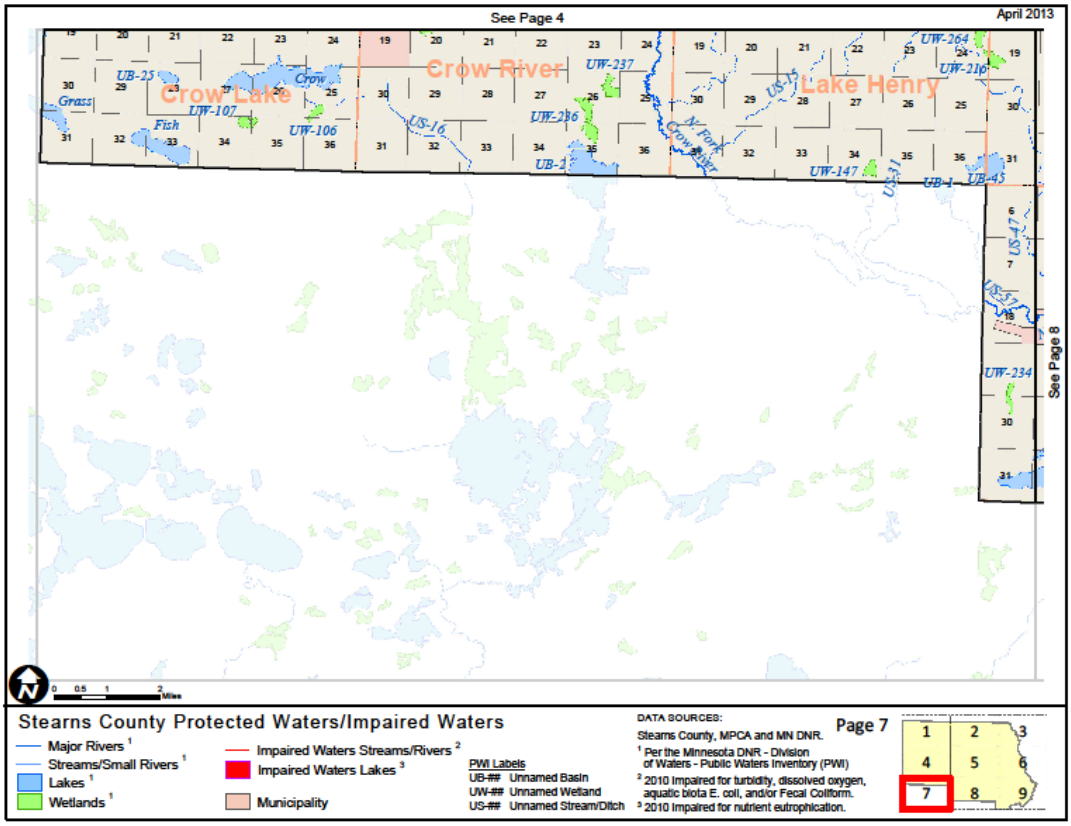
See Page 4
April 2013
Crow River
Crow Lake
Lake Henry
See Page 8
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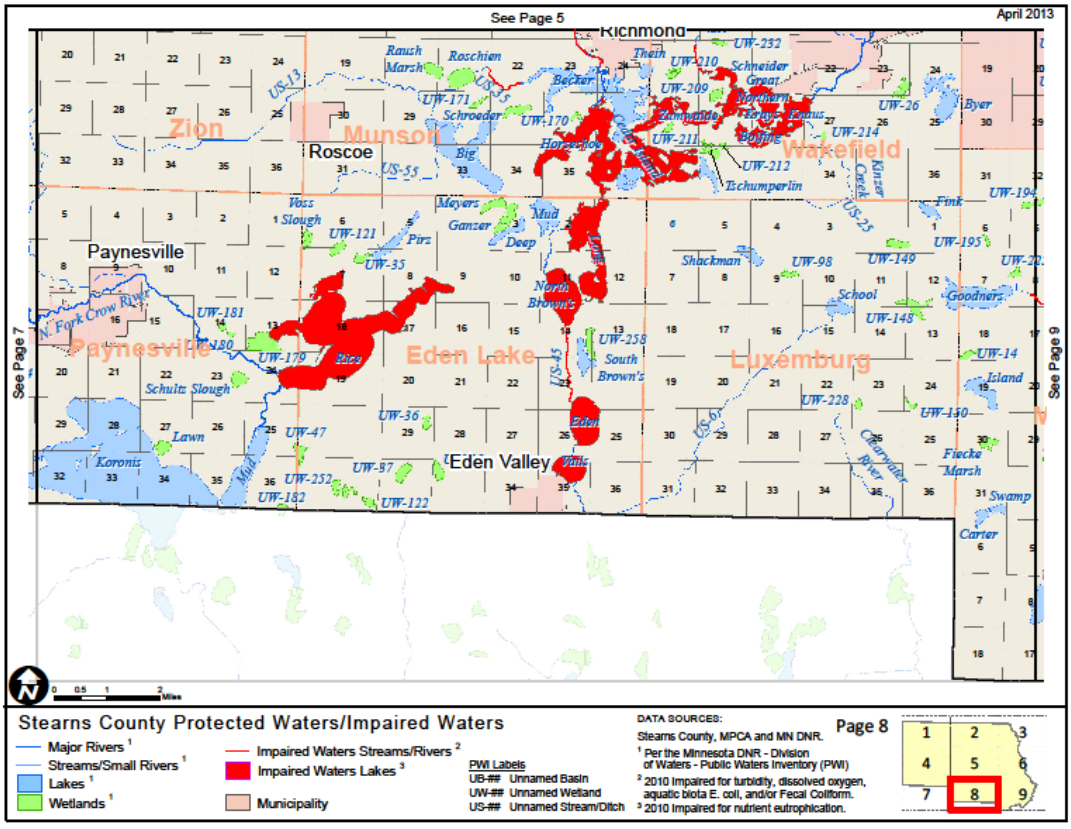
See Page 5
April 2013
Richmond
Zion
Munson
Roscoe
Wakefield
Paynesville
Eden Lake
Luxemburg
Eden Valley
See Page 7
See Page 9
Stearns County Protected Waters/Impaired Waters
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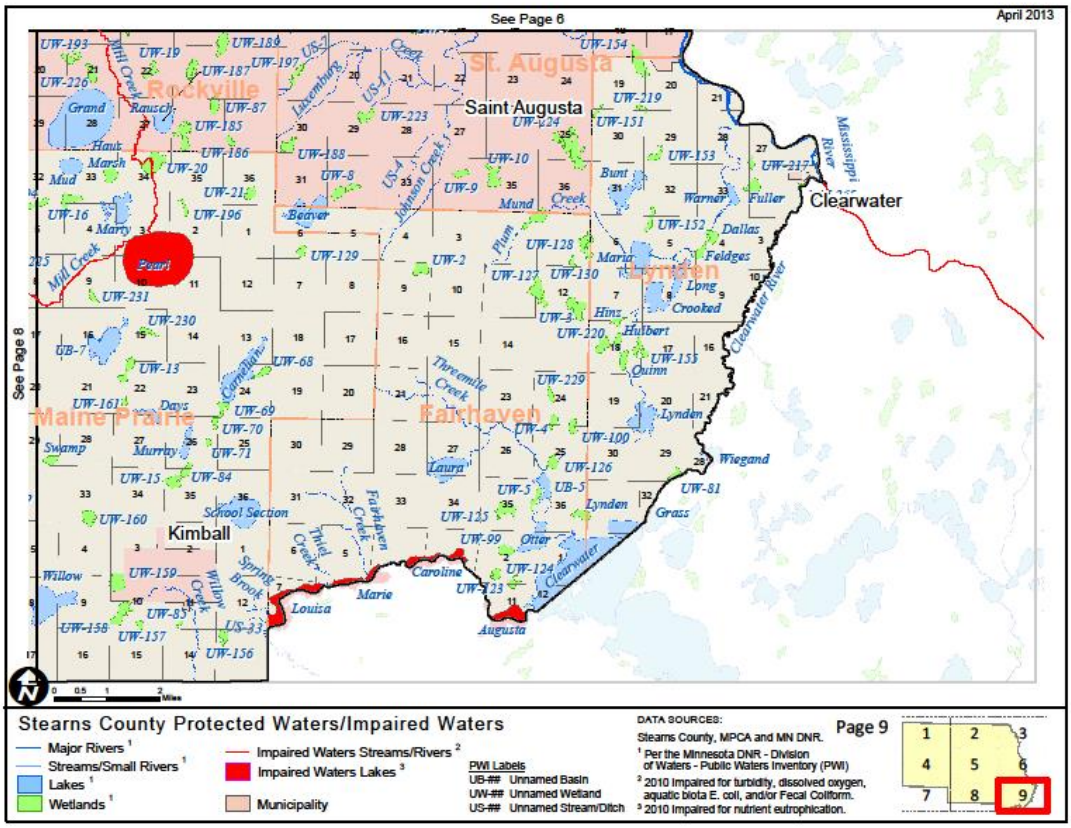

Water Clarity Trends

Based on the water clarity readings taken as part of the Minnesota Citizen Lake Monitoring Program, 17 lakes show improving clarity, 29 are remaining the same and only two are deteriorating. These generally good results are an indication that the efforts of citizens and local and State agencies to protect and restore our waters is having an effect. Following is a list showing the water clarity trends.

TREND IDENTIFIED BY SECCHI READINGS (THROUGH 2010)		
LAKE NAME	**LAKE ID**	**TREND**
		WATER CLARITY IMPROVING
Bear	73-0190	Water clarity in this lake is possibly improving, with an estimated increase of 3.2 feet per decade.
Big	73-0159	Water clarity in this lake is almost certainly improving, with an estimated increase of 1.2 feet per decade.

Big Fish	73-0106	Water clarity in this lake is almost certainly improving, with an estimated increase of 2.4 feet per decade.
Big Watab	73-0102	Water clarity in this lake is almost certainly improving, with an estimated increase of 1.3 feet per decade.
Bolfing	73-0088	Water clarity in this lake is almost certainly improving, with an estimated increase of 0.2 feet per decade.
Cedar Island (Koetter Lk)	73-0133-03	Water clarity in this lake is very likely improving, with an estimated increase of 0.07 feet per decade.
Grand	73-0055	Improving, with an estimated increase of 0.54 feet per decade.
Long	73-0107	Water clarity in this lake is possibly improving, with an estimated increase of 2.8 feet per decade.
Long	73-0139	Water clarity in this lake is almost certainly improving, with an estimated increase of 0.6 feet per decade.
Lower Spunk	73-0123	Water clarity in this lake is possibly improving, with an estimated increase of 2.2 feet per decade.
Maria	73-0215	Water clarity in this lake is likely improving, with an estimated increase of 0.7 feet per decade.
Middle Spunk	73-0128	Water clarity in this lake is almost certainly improving, with an estimated increase of 0.7feet per decade.
Otter	73-0015	Water clarity in this lake is almost certainly improving, with an estimated increase of 0.25 feet per decade.
Pelican	73-0118	Water clarity in this lake is very likely improving, with an estimated increase of 0.3 feet per decade.
Pirz	73-0144	Water clarity in this lake is possibly improving, with an estimated increase of 0.8 feet per decade.
Pleasant	73-0051	Water clarity in this lake is almost certainly improving, with an estimated increase of 1 foot per decade.
Sand	73-0199	Water clarity in this lake is almost certainly improving, with an estimated increase of 0.9 feet per decade.

		NO TREND EXHIBITED
Becker	73-0156	This lake exhibits no clear water clarity trend.
Big Spunk	73-0117	This lake exhibits no clear water clarity trend.
Cedar Island (Main Bay)	73-0133-01	No evidence of long-term trend.
Cedar Island (East Lk)	73-0133-04	This lake exhibits no clear water clarity trend.
Crooked	73-0006	This lake exhibits no clear water clarity trend.
Eden	73-0150	This lake exhibits no clear water clarity trend.
Eleven Quarry	73-0703	This lake exhibits no clear water clarity trend.
Kings	73-0233	This lake exhibits no clear water clarity trend.
Knaus	73-0086	This lake exhibits no clear water clarity trend.
Koronis (main lake)	73-0200-02	No evidence of a long-term trend.
Krays	73-0087	This lake exhibits no clear water clarity trend.
Kreigle	73-0097	This lake exhibits no clear water clarity trend.
Great Northern	73-0083	This lake exhibits no clear water clarity trend.
Horseshoe	73-0157	This lake exhibits no clear water clarity trend.
Long	73-0004	This lake exhibits no clear water clarity trend.
Marie	73-0014	This lake exhibits no clear water clarity trend.
Melrose Deep Quarry	73-0701	This lake exhibits no clear water clarity trend.
Ochotto	73-0122	This lake exhibits no clear water clarity trend.
Pearl	73-0037	This lake exhibits no clear water clarity trend.
Rice	73-0196	This lake exhibits no clear water clarity trend.
Rossier	73-0072	This lake exhibits no clear water clarity trend.

Schneider	73-0082	This lake exhibits no clear water clarity trend.
School Section	73-0035	This lake exhibits no clear water clarity trend.
St. Anna	73-0183	This lake exhibits no clear water clarity trend.
Sylvia	73-0249	This lake exhibits no clear water clarity trend.
Two Rivers	73-0138	This lake exhibits no clear water clarity trend.
Watab	73-0070	This lake exhibits no clear water clarity trend.
Vails	73-0151	This lake exhibits no clear water clarity trend.
Zumwalde	73-0089	This lake exhibits no clear water clarity trend.
		WATER QUALITY DETERIORIATING
Kraemer	73-0064	Water clarity in this lake is almost certainly declining, with an estimated decrease of 6.5 feet per decade.
North Brown's	73-0147	Water clarity in this lake is almost certainly declining, with an estimated decrease of 0.45 feet per decade.

2010 List of Impaired Waters

Only 24 lakes have been placed on the 2010 Impaired Waters List. Seventeen river and stream reaches in Stearns County have been placed on the 2010 Impaired Waters List.

Stearns County Lakes on 2010 Impaired Waters List						
Water body	**ID**	**Stressor**	**Year Listed**	**Target Start Date**	**Target End Date**	**Project Status**
Marie	73-0014-00	Excess nutrients	2008	2004	2010	Approved
Louisa	86-0282-00	Excess nutrients	2002	2004	2010	Approved
Caroline	86-0281-00	Excess nutrients	2008	2008	2012	Approved

Augusta	86-0284-00	Excess nutrients	2008	2008	2012	Approved
Rice Lake	73-0196-00	Excess nutrients	2008	2009	2013	Approved
Pearl Lake	73-0037-00	Excess nutrients	2008	2004	2010	Approved
Sauk Lake	77-0150-02	Excess nutrients	2004	2004	2010	Underway
Schneider	73-0082-00	Excess nutrients	2004	2004	2010	Underway
Great Northern	73-0083-00	Excess nutrients	2004	2004	2010	Underway
Knaus	73-0086-00	Excess nutrients	2004	2004	2010	Underway
Krays	73-0087-00	Excess nutrients	2004	2004	2010	Underway
Bolting	73-0088-00	Excess nutrients	2004	2004	2010	Underway
Zumwalde	73-0089-00	Excess nutrients	2004	2004	2010	Underway
Cedar Island (Main)	73-0133-01	Excess nutrients	2004	2004	2010	Underway
Cedar Island	73-0133-03	Excess nutrients	2004	2004	2010	Underway
Long	73-0139-00	Excess nutrients	2004	2004	2010	Underway
North Brown	73-0147-00	Excess nutrients	2004	2004	2010	Underway
Horseshoe	73-0157-00	Excess nutrients	2004	2004	2010	Underway
Maria	73-0215-00	Excess nutrients	2006	2015	2019	Not underway
Eden Lake	73-0150-00	Excess nutrients	2010	2010	2015	Not underway
Vails Lake	73-0151-00	Excess nutrients	2010	2010	2015	Not underway
Sand Lake	73-0199-00	Excess nutrients	2010	2010	2015	Not underway
McCormic Lake	73-0273-00	Excess nutrients	2010	2010	2015	Not underway
Two Rivers Lake	73-0138-00	Excess nutrients	2010	2015	2021	Not underway

Stearns County Rivers and Streams on 2010 Impaired Waters List						
Water body	**ID**	**Stressor**	**Year Listed**	**Target Start Date**	**Target End Date**	**Project Status**
Clearwater River (Clearwater Lk to Mississippi R)	07010203-511	Bacteria	2006	2008	2011	Approved
Mill Creek	07010202-537	Fecal Coliform	2006	2004	2009	Approved
Sauk River (Mill Ck to Mississippi)	07010202-501	Turbidity	2008	2004	2009	Approved
Mississippi River (Sauk R to CSAH 7 in St Cloud)	07010203-574	*E. coli*	2010	2008	2015	Underway
Sauk River (Mill Ck to Mississippi)	07010202-501	Fecal Coliform	1994	2004	2009	Underway
Spunk River (Lower Spunk Lk to Mississippi R)	07010201-525	Fecal Coliform	2008	2015	2022	Not underway
Ashley Creek	07010202-503	Low Oxygen	1998	2010	2011	Not underway
Ashley Creek	07010202-503	*E. coli*	2010	2010	2015	Not underway
Sauk River (Melrose Dam to Adley Cr)	07010201-506	Invertebrate IBI	2006	2010	2015	Not underway
Sauk River (Getchell Cr to St Hwy 23)	07010202-508	*E. coli*	2010	2010	2015	Not underway
Adley Creek (Sylvia Lk to Sauk R)	07010202-527	*E. coli*	2010	2010	2015	Not underway
County Ditch 6 (unnamed to Ashley Cr)	07010202-521	Invertebrate IBI Fish IBI	2006	2010	2015	Not underway
Stony Creek	07010202-541	*E. coli*	2010	2010	2015	Not underway

(headwater to Sauk R)						
Getchell Creek (County Ditch 2)	07010202-562	Invertebrate IBI	2006	2010	2015	Not underway
Getchell, Unnamed, Stony (GUS)	07010202-562 07010202-542 07010202-541	Turbidity	2008	2009	2012	Approved
Eden Lake outlet	07010202-541	Low Oxygen	2010	2010	2015	Not underway
Kolling Creek	07010202-575	Low Oxygen	2010	2010	2015	Not underway

Goal 1. Source Water Protection

Goal 1 is to protect, enhance and improve, as needed, the quality of drinking water supplied by the public water suppliers in Stearns County. This will be done by cooperating with and assisting public water suppliers who are developing and implementing Source Water Protection Plans, including Wellhead Protection Plans, with the assistance of the Stearns County SWCD Urban Conservationist. The term "source water protection" refers to the efforts made by public water systems to protect water supply from contamination. For public water supplies that are ground water systems, wellhead protection and source water protection are used interchangeably.

Introduction to Amendments to the Priority Concern: Source Water Protection

The original Source Water Protection Priority Concern was focused primarily on the water quality in public wells. The Minnesota Department of Agriculture has found both a very high incidence of high nitrate-nitrogen levels and an increasing trend in the nitrate-nitrogen levels of ground water of the Central Sands area. In response to this the MDA began monitoring levels of nitrate-nitrogen in Central Sands domestic wells in 2009 with the SWCD as a partner. Due to increased concern about the quality of domestic well water, the amended action items include increasing public awareness of the vulnerability of domestic well water and actions to prevent contamination of domestic well water.

There are also action items that address concerns about arsenic in private wells and an increasing awareness of the potential effects of emerging contaminants.

Based on the recently published Stearns County Aggregate Potential Map showing that most of the mineral deposits are in vulnerable Wellhead Protection Areas, additional protective measures for aggregate mining in Wellhead Protection Areas overlying geologically sensitive aquifers will be developed.

New approaches will be utilized to reduce nutrient loading in vulnerable wellhead protection areas, such as the Conservation Marketplace Midwest and the evaluation of nitrogen leaching to aquifers under various farm management scenarios with the Nutrient Tracking Tool. To reduce nutrient loading from agricultural fields, there is an initiative for the maintenance of a 50-foot permanently vegetated buffer along public water bodies in the St Cloud Source Water Protection Priority Area A.

Scarcity of ground water has become more of an issue, possibly exacerbated by low precipitation, increased irrigation and domestic use. The DNR will be asked to increase the number of observation wells in Stearns County.

Public water suppliers with Wellhead Protection Plans have expressed the need for financial and/or technical assistance in implementing their Plans. Action items were added to give targeted support for specific implementation goals of these public water suppliers. Public water suppliers will adopt new Wellhead Protection Plans before the next Water Management Plan update. If the new Plans express a need for financial and/or technical assistance in implementation, the appropriate parties will assist as possible.

Objective A. Promote, support and participate in civic engagement directed at the issues affecting Source Water Protection. Focus areas are the public water suppliers with Source Water Protection Plans and the public water suppliers that are or will be required to develop Source Water Protection Plans.

1. Civic engagement will be accomplished with particular focus on long-term maintenance of subsurface sewage treatment systems, proper disposal of hazardous chemicals through the Household Hazardous Waste program, stormwater runoff, low impact development, BMP's before, during and after construction, properly sealing unused, unsealed wells, and the connection between the use of chemicals and potential impacts on water quality.

   Partners: ESD, SWCD, MDH, Minnesota Rural Water Association (MRWA), public water suppliers, Central Minnesota Water Education Alliance (CMWEA)
   Funding: Estimated Cost $30,000
   Timeline: 2008-2017

2. Civic engagement will be directed at emerging contaminants of concern and pharmaceutical disposal. A new educational water festival activity will be developed to bring home the "living green" message as it relates to Source Water Protection; an example of such an activity could be a comparison of hand washing with products that contain triclosan vs. traditional soap which does not contain triclosan.

   Partners: MDH, CMWEA, SCSU, St. Cloud, SWCD, ESD
   Funding: Estimated Cost $2,000
   Timeline: 2013-2017

3. Partner and participate with communities on educational activities, such as water festivals and educational fairs. Support funding for water festivals, particularly those that have a groundwater protection component.

Partners: ESD, SWCD, MDH, MRWA, municipalities, DNR, Watershed Districts (WD's), lake associations
Funding: Estimated Cost $50,000
Timeline: 2008-2017

4. Increase public awareness of water quality in private wells. Work with MDA to expand current well testing programs to encompass the entire County and to include testing for arsenic. Obtain the MDH database of arsenic results. Develop a Countywide database of arsenic and nitrate results from State testing and nitrate clinics. Include this information as part of platting and building permitting process.

   Partners: MDA, SWCD, MDH, MRWA, ESD
   Funding: Estimated Cost $10,000
   Timeline: 2013-2017

5. Focus educational efforts on the proper application of nutrients. This encompasses agricultural producers, home owners, and septage spreaders.

   Partners: ESD, SWCD, MDH, MDA, MRWA, BWSR, MPCA
   Funding: Estimated Cost is $1,000
   Timeline: 2013-2017

Objective B. Focus inspection and compliance activities within the Drinking Water Supply Management Areas.

1. Continue to inspect all feedlots and work with owners/operators to bring non-compliant facilities into compliance. The highest priority for achieving compliance will be those feedlots within vulnerable and highly vulnerable DWSMA's. Data from December, 2012 indicates that of the 2428 active feedlots in the County, there are 315 feedlots in the DWSMA's, including St. Cloud Source Water Protection Area A. Of these 315, 18 are not in compliance. The goal is to reduce this number by 25% by the end of 2017.

   Partners: ESD, SWCD, MDH, MRWA, Board of Water and Soil Resources (BWSR), MDA
   Funding: Estimated Cost is $350,000
   Timeline: 2008-2017

2. City of St. Cloud will continue to inspect work done under NPDES Phase II Construction Permits throughout its City limits.

   Partners: MPCA, St. Cloud
   Funding: Estimated Cost is $50,000
   Timeline: 2008-2017

3. Clarify if there are areas within St. Cloud's DWSMA Area A that are not subject to local inspections and enforcement of NPDES permits, i.e. gaps in the jurisdictional boundaries.

Create a map of jurisdictional authority, including contact information, to be placed on the St. Cloud website.

Partners: St. Cloud, SWCD
Funding: Estimated Cost $1,000
Timeline: 2013-2017

Objective C. Administer initiatives that advance source water protection

1. Secure funding for Source Water Protection, including both Wellhead Protection and protection of surface water intakes. Funding from MDH Source Water Grants and other Clean Water, Land and Legacy Amendment funding will be pursued as it becomes available.

   Partners: MDH, MRWA, ESD, SWCD, BWSR, MPCA
   Funding: Estimated Cost is $5,000
   Timeline: 2008-2017

2. Assist, as requested, in the development and implementation of Source Water Protection Plans.

   Partners: SWCD, MDH, MRWA ESD, Public Water Suppliers
   Funding: Estimated Cost is $300,000
   Timeline: 2008-2017

3. Partner with MDA to conduct nitrate testing for private wells through nitrate "clinics'. Develop a nitrate clinic at the ESD office in Melrose. Include arsenic as part of any water quality clinics in areas that have documented elevated arsenic levels.

   Partners: SWCD, MDA, ESD, MDH, MRWA, BWSR, lake associations, WD's
   Funding: Estimated Cost is $10,000
   Timeline: 2008-2017

4. Take action to prevent potential groundwater degradation in vulnerable WHPA's resulting from storm water infiltration. Actions to accomplish this may include development of planning and zoning tools, such as an overlay district, which promote proactive land use planning in order to protect drinking water supplies, and working to influence MPCA to develop a statewide policy concerning storm water infiltration in vulnerable WHPA's. An overlay district will include evaluation of proposed storm water infiltration projects in vulnerable WHPA's, using State guidance from MDH and/or MPCA.

   Partners: ESD, MDH, MPCA, MRWA, SWCD, Cities and Townships
   Funding: Estimated Cost $10,000
   Timeline: 2008-2017

5. Explore development of additional required protective measures for aggregate mining in wellhead protection areas overlying geologically sensitive aquifers. Additional measures are detailed in the MDH guidance document "Wellhead Protection Issues Related to Mining Activities". Conditional Use Permits will include consideration of conditions that address ground water quality concerns, e.g. secondary containment of spills within mining pit. The

Stearns County Aggregate Potential Map shows that much of the mineral deposits are in vulnerable WHPA's. The County will consider strategies that will permit utilization of aggregate resources while giving adequate protection for groundwater supplies.

Partners: ESD, MDH, MRWA, WD's
Funding: Estimated Cost is $1,000
Timeline: 2008-2017

Objective D. Employ land and water treatment initiatives for the protection of source water. Focus will be in DWSMA's.

1. Promote efforts to minimize the potential negative effects of unused, unsealed wells by reactivating, sealing by a licensed contractor or obtaining a maintenance permit for the well. Since 2009, SWCD-administered programs sealed an average of six unused wells per year. The goal is to maintain this annual average.

   Partners: SWCD, MDH, MRWA, public water suppliers, BWSR, WD's, ESD
   Funding: Estimated Cost is $1,000
   Timeline: 2008-2017

2. Secure funding for the proper sealing of unused, unsealed wells through the cost-share programs and/or by seeking grant funding from BWSR and/or MDH. Wells with highest priority are those that rank the highest on the "Well-Sealing Priority Checklist, Priority Well Characteristics for Well-Sealing Cost-Share Funds" located in the *State of Minnesota Cost-Share Program Manual.*

   Partners: SWCD, BWSR, WD's, ESD, MDH, MRWA, public water suppliers
   Funding: Estimated Cost is $5,000
   Timeline: 2008-2017

3. Cooperate with public water suppliers with vulnerable DWSMA's to inventory those SSTS located within the vulnerable areas of the DWSMA and explore possible sources of funding to correct noncompliant systems. Support innovative approaches towards inspection programs of individual septic treatment systems.

   Partners: ESD, MRWA, public water suppliers, SWCD, BWSR, WD's
   Funding: Estimated Cost is $200,000
   Timeline: 2008-2017

4. Support the awarding of additional scoring points in the determination of eligibility for conservation program funding if an area is within a DWSMA.

   Partners: NRCS, SWCD, MRWA, public water suppliers, BWSR, WD's
   Funding: Estimated Cost is $1,000
   Timeline: 2008-2009 (accomplished)

5. Cooperate with the public water suppliers in their promotion of conservation programs.

Partners: National Resources Conservation Service (NRCS), SWCD, MRWA, public water suppliers, BWSR, WD's
Funding: Estimated Cost is $10,000
Timeline: 2008-2017

6. Promote BMP's associated with irrigation mainly on coarse textured soils in DWSMA's.

Partners: MDA, NRCS, SWCD, MRWA, public water suppliers, WD's, DNR
Funding: Estimated Cost is $10,000
Timeline: 2008-2017

7. Support research for the purpose of developing the use of native/alternative plants as a cellulosic source for biofuels. Support the planting of native/alternative plants as vegetative buffers, particularly in Source Water Protection Areas.

Partners: MDA, NRCS, SWCD, MRWA, St. Cloud
Funding: Estimated Cost is $10,000
Timeline: 2008-2017

8. Explore the possibility of supplemental incentive funding to existing programs for vegetative buffers, set aside programs and BMP's. Possible sources are watershed districts, the UMRSWPP, or municipal water utility funds.

Partners: NRCS, SWCD, MRWA, St. Cloud, BWSR, WD's, non-profits, MDH
Funding: Estimated Cost is $10,000
Timeline: 2008-2017

9. Cooperate with public water suppliers with DWSMA's in their efforts to reduce agricultural chemical and fertilizer usage in areas where runoff and/or infiltration to the aquifer are a concern through education and incentive programs.

Partners: NRCS, SWCD, MRWA, public water suppliers, BWSR, WD's, MDH
Funding: Estimated Cost is $10,000
Timeline: 2008-2017

10. Support trading programs that reduce nutrient loading in vulnerable SWP areas. Explore opportunities available through Conservation Marketplace Midwest.

Partners: SWCD
Funding: Estimated Cost $5,000
Timeline: 2013-2017

11. Encourage public water suppliers with Source Water Protection plans to collect household hazardous waste through the County Household Hazardous Waste program. Encourage initiatives to install additional pharmaceutical drop boxes.

Partners: ESD, public water suppliers, law enforcement

Funding: Estimated Cost is $1,000
Timeline: 2008-2017

12. Develop an initiative for the installation of a 50' permanently vegetated buffer along public water lakes, wetlands and streams within St. Cloud DWSMA A. Use of programs such as CCRP, CRP, RIM and EQIP will be explored.

Partners: SWCD, St. Cloud, County, BWSR
Funding: Estimated Cost $100,000
Timeline: 2013-2017

13. Support demonstrations and field studies to better manage nutrient application on lawns and agricultural settings.

Partners: SWCD, MDA, MRWA, MDH, public water suppliers
Funding: Estimated Cost $1,000
Timeline: 2013-2017

14. Seek and support new tools that evaluate nitrogen leaching to the surficial and deep groundwater aquifers under various farm management scenarios. One tool may be the Nutrient Tracking Tool (NTT).

Partners: SWCD, NRCS, MDA
Funding: Estimated Cost $2,000
Timeline: 2013-2017

Objective E. Conduct mapping and inventory initiatives for the purpose of source water protection.

1. Cooperate with the requests of public water suppliers in mapping and inventory initiatives within DWSMA's. These initiatives may include detailed inventory of potential contaminants; mapping and documenting storm water outfalls on rivers and tributaries; mapping and documenting private and public drainage ditches; gathering information on sub-watersheds for storm outfalls and ditch outfalls; inventory and map areas that need buffers to reduce sediment loading. Explore means for public water suppliers to utilize the County's parcel base map at a reduced price.

Partners: ESD, SWCD, public water suppliers, watershed districts
Funding: Estimated Cost is $26,000
Timeline: 2008-2017

2. Request that the DNR increase the number of observation wells in the County and share the information obtained concerning water levels and the development of any potential water quantity issues.

Partners: DNR, ESD, SWCD
Funding: Estimated Cost $500
Timeline: 2013-2017

3. Develop an interactive map outlining the DWSMA's and the vulnerabilities associated with each DWSMA. The map interface will include Source Water Protection related activities, such as well sealing and other special initiatives.

   Partners: SWCD, local communities, MDH, ESD, MDA, MPCA, DNR
   Funding: Estimated Cost $1,500
   Timeline: 2013-2017

Objective F. Assist and support the implementation of approved Source Water Protection Plans.

1. Support the City of Holdingford in its efforts to seek technical and/or financial assistance to redirect drainage off the park parking lot and away from the municipal wells. Filter and treat redirected runoff before entering the wetland on the south end of the parking lot.

   Partners: City of Holdingford, SWCD, MDH
   Funding: Estimated Cost $5,000
   Timeline: 2013-2017

2. Support the City of Paynesville with technical and/or financial assistance to address the benzene contamination at the former Midtown gas station.

   Partners: City of Paynesville, SWCD, MPCA, MDH
   Funding: Estimated Cost $500
   Timeline: 2013-2017

3. Support the Cities of Cold Spring and Melrose with technical and/or financial assistance to address the elevated nitrate levels in their public water supply wells.

   Partners: City of Cold Spring, Melrose, SWCD, MDH, MDA
   Funding: Estimated Cost $20,000
   Timeline: 2013-2017

4. Support the City of Rockville with financial and/or technical assistance in addressing the flooding near the public water supply wells.

   Partners: City of Rockville, SWCD, MDH
   Funding: Estimated Cost $1,000
   Timeline: 2013-2017

5. Assist and support the City of New Munich to continue monitoring the manure storage facility.

   Partners: SWCD, MDH, New Munich
   Funding: Estimated Cost $1,000
   Timeline: 2013-2017

6. Assist and support the implementation activities directed at water quality issues as stated in the approved Source Water Protection Plans of public water suppliers within Stearns County.

Partners: SWCD, MDH, ESD, source water communities
Funding: Estimated Cost $1,000
Timeline: 2013-2017

Goal 2. Development Impacts

Goal 2 is to minimize the impact from existing, new development and redevelopment on surface and ground water resources. Areas of highest concern are river shoreland, lake shoreland and areas with direct connection to waters of the state. The purpose is to reduce pollutant loading so that all waters of Stearns County meet the State standards.

Introduction to Amendments to the Priority Concern: Development Impacts

This amended Implementation Plan more clearly focuses on the protection and/or restoration of water quality so that the water resource will meet the State standards. The most effective means of protecting and restoring water quality is by addressing monitored or demonstrated water quality threats, defining the source of contamination by subwatershed or location in the landscape, and targeting actions to the sources. This approach will be taken whenever feasible. However, the primary sources of contamination of our water bodies are non-point and these sources are often not regulated. Remedies to non-point source contamination rely on voluntary efforts and the success of initiating and completing the projects depends on strong project partners.

Because the negative effects of development are felt throughout the County, all major watersheds will be included in these efforts.

The intent is to build on the success of the Natural Resources Conservation Design Overlay provision of Land Use and Zoning Ordinance #439 to promote its acceptance in additional areas of the County.

The release of the newly developed Minimal Impact Design Standards will be used to re-evaluate the erosion and stormwater provisions of the Stearns County Land Use and Zoning Ordinance.

Because the SWCD's Shoreland Preservation Agreement has been utilized as an effective tool to ensure permanent protection of natural areas, its use will be promoted.

After the NPDES Pilot Program was terminated, a gap in regular NPDES inspections developed. The County and the SWCD will explore establishment of an inspector position that is shared with the cities and townships.

To better meet the requirements of the County SWPPP, County staff will be trained to identify instances of illicit discharge and learn what the appropriate actions are.

Objective A. Encourage low impact development and better site design on all new and redevelopment projects throughout County.

1. Implement projects that can be used to demonstrate best management practice technologies such as green roofs, rain gardens, pervious pavement, infiltration boulevards, etc. Strategies include tours of completed projects open to development community, agency staff, and

interested citizens, and development of a cost share program. A "virtual tour" will be developed, including a list of any sites that are open for public viewing.

Partners: SWCD, County Parks Dept., MECA, Lake Associations, St. Cloud
Funding: Estimated Cost $50,000
Timeline: 2008-2017

1A. Implement projects that utilize best management practice technologies such as green roofs, rain gardens, pervious pavement, infiltration boulevards, etc. Since 2011, fifty-five rain gardens were installed with SWCD technical/and or financial assistance. The goal is to install ten projects per year. Projects that will reduce the most pollutants with the least amount of money will have priority, with shoreland restoration and protection being the highest priority.

Partners: SWCD, County Parks Dept., MECA, Lake Associations, Communities located on rivers or lakes
Funding: Estimated Cost $150,000
Timeline: 2013-2017

2. Promote low impact development strategies by seeking to include in the zoning ordinance incentives for projects that use low impact development strategies. Civic engagement will be utilized to promote low impact development strategies such as retention of trees when building, minimization of stormwater runoff, minimization of soil compaction around building sites, and native landscaping. Strategies include inclusion in the Shoreland Contractor Workshop agenda and inclusion in the Central Minnesota Water Education Alliance educational campaign.

Partners: ESD, SWCD, municipalities, Central MN Builders Association, CMWEA
Funding: Estimated Cost is $10,000
Timeline: 2008-2017

3. Promote adoption by townships of the Natural Resources Conservation Design Overlay provision of Land Use and Zoning Ordinance #439 in additional areas (beyond Avon Hills) at the annual township training. Consider possible incentives for utilization of conservation design, e.g. expansion of a density bonus to any plat utilizing conservation design or a financial incentive.

Partners: ESD, SWCD, Townships
Funding: Estimated Cost $5,000
Timeline: 2008-2017

4. Consider expansion of the County's conservation easement program so that it allows property owners to request a conservation easement be placed on their property for the purpose of eliminating a residential development right.

Partners: ESD, County Parks Department, MN Land Trust
Funding: Estimated Cost $1,000
Timeline: 2008-2017

5. Include as part of the platting process the requirement that the first plan submitted by the applicant should be a conceptual sketch plan, rather than a preliminary plat. The conceptual sketch plan will contain a detailed existing resource and site analysis map. A context map will also be submitted of the immediate area surrounding the land to be platted. Pre-application meetings with the applicant, using the conceptual sketch plan, will be used as an opportunity to design the plat with the goal of preserving sensitive land. Encourage an onsite meeting for plats in shoreland.

   Partners: ESD, SWCD
   Funding: Estimated Cost $5,000
   Timeline: 2008-2017

6. Recognize that some areas are corridors that serve as connections between natural areas and guide development away from those areas of connection.

   Partners: ESD, SWCD
   Funding: Estimated Cost $2,000
   Timeline: 2008-2017

7. Implement portions of the Alternative Shoreland Standards as developed by the Governor's Initiative.

   Partners: ESD, DNR
   Funding: Estimated Cost $20,000
   Timeline: 2008-2017

8. Have a detailed countywide Natural Resource Inventory completed. The purpose of the inventory is to identify sensitive natural areas for the purpose of restoration and preservation and for the purpose of planning future development.

   Partners: SWCD, DNR, ESD, WD's, lake associations
   Funding: Estimated Cost $100,000
   Timeline: 2008-2017

Objective B. Promote land and water best management practices in shoreland and riparian areas. To be successful, voluntary projects particularly depend on strong project partners. Priority will be given to practices done with strong project partners.

1. Assist landowners with shoreland and riparian BMP's, including technical and cost-share assistance. Priority will be given to projects with other beneficial ecosystem service benefits, including wildlife habitat.

   Partners: SWCD, WD's, DNR, ESD, lake associations
   Funding: Estimated Cost $200,000
   Timeline: 2008-2017

2. Disconnect impervious surfaces from waters of the State by the use of BMP's, promoted through civic engagement, incentives and technical assistance.

Partners: SWCD, lake associations, ESD, WD's, municipalities, CMWEA
Funding: Estimated Cost $25,000
Timeline: 2008-2017

3. Seek out and assist with storm water management and/or erosion control retrofit opportunities, particularly around lakes and rivers. Identify priority areas and rank by subwatershed based on load reductions that can be achieved. Work with partners on projects that are already funded so that the project is modified to include components that will benefit water quality.

Partners: SWCD, ESD, WD's, lake associations, municipalities, townships
Funding: Estimated Cost $100,000
Timeline: 2008-2017

4. Partner with other local agencies in implementing projects that will protect and/or restore water quality.

Partners: SWCD, watershed districts, municipalities, townships
Funding: Estimated Cost $2,000
Timeline: 2013-2017

5. The construction of retaining walls in shoreland should be permitted only if bioengineered solutions, such as the use of natural vegetation, slope stabilization using mulch, biomat, or similar bioengineered means, are not feasible.

Partners: ESD
Funding: Estimated Cost $2,000
Timeline: 2008-2017

6. Issuance of construction permits in shoreland will include running the Stearns County Pollutant Loading Model. Technical review will occur to determine the extent of off-site impacts to neighboring properties and/or the waterbody. Include in the Stearns County Land Use and Zoning Ordinance #439 a provision that the Stearns County Pollutant Loading Model will be run for all proposed projects in shoreland. If the calculated total suspended solids and total phosphorus exceed pre-settlement conditions, then a BMP will be required such that the BMP will reduce loading to pre-settlement conditions or as defined by a TMDL. An onsite meeting will be encouraged for all riparian construction projects, prior to submission of an application.

Partners: ESD, SWCD
Funding: Estimated Cost $20,000
Timeline: 2008-2017

7. Promote use of SWCD's Shoreland Preservation Agreement, a document that ensures permanent protection of natural areas or project areas in shoreland.

Partners: SWCD, ESD

Funding: Estimated Cost $2000
Timeline: 2013-2017

8. Assist landowners in upgrading Subsurface Sewage Treatment Systems by seeking out funding opportunities.

   Partners: ESD, BWSR
   Funding: Estimated Cost $1,000
   Timeline: 2008-2017

Objective C. Promote land and water best management practices in urban areas. Because these projects are voluntary, successful initiation and completion is dependent on strong project partners. Priority will be given to practices done with strong project partners and, if possible, are already funded and can be modified to benefit water quality.

1. Identify, target and assist landowners with stormwater/retrofit BMP's, such as infiltration/filtration basins, pervious pavement, rain gardens, etc., including cost-share assistance and/or technical assistance. Projects with a direct connection to surface waters are a priority. Reducing the impacts from stormwater off of impervious surfaces, such as Parking Lot Q at SCSU, is a priority.

   Partners: SWCD, WD's, DNR, ESD, municipalities, SCSU
   Funding: Estimated Cost $200,000
   Timeline: 2008-2017

2. Disconnect impervious surfaces from waters of the state by the use of BMP's, promoted through civic engagement, incentives and technical assistance.

   Partners: SWCD, ESD, WD's, CMWEA, MPCA, municipalities
   Funding: Estimated Cost $25,000
   Timeline: 2008-2017

3. Develop a program to allow for small scale projects in developed areas when NRCS Field Office Technical Guide design standards cannot be met. Highest priority projects will be those that can most reduce loading to water resources. This determination will be done on a subwatershed basis.

   Partners: SWCD, ESD, WD's, municipalities, townships
   Funding: Estimated Cost $100,000
   Timeline: 2008-2017

Objective D. Reduce impacts of stormwater runoff and manage flow and volume.

1. Provide information, technical and/or financial assistance to County landowners implementing development retrofit-related BMP's. Strong project partners are a priority.

Partners: SWCD, MDA, NRCS, ESD, watershed districts
Funding: Estimated Cost $500,000/year
Timeline: 2008-2017

2. Work with contractors/developers on fulfilling the requirements of the County and other local ordinances. Strategies include:
- inspections by staff concerning compliance with stormwater ordinance
- presentations at township meetings
- presentations to contractors, through Central MN Builders Association (CMBA)

Partners: ESD, SWCD, WD's, MPCA, CMBA
Funding: Estimated Cost $15,000
Timeline: 2008-2017

3. The County will conduct civic engagement activities to increase public awareness and understanding of stormwater runoff and erosion control issues. Possible means of civic engagement include:

- Central Minnesota Water Education Alliance
- SWCD website
- stormwater information on the County web site
- "Sediment and Erosion Control for New Homeowners" brochure will be provided to all Construction Permit applicants
- work with local schools to develop and implement a program for elementary school children focused on household stormwater management
- supplement/endorse Watershed District and Lake Association civic engagement efforts
- Shoreland Contractor Workshop

Partners: ESD, SWCD, WD's,
Funding: Estimated Cost $15,000
Timeline: 2008-2017

4. Evaluate permanent stormwater practices for installation, maintenance and effectiveness. If the practice can be made more effective, modify the practice so that better water quality results are achieved.

Partners: SWCD, ESD
Funding: Estimated Cost $15,000
Timeline: 2008-2017

5. The erosion control and stormwater provisions of Stearns County Land Use and Zoning Ordinance #439 (sections 7.10 and 7.25) will be revisited after the MPCA Stormwater Manual is updated and the Minnesota Minimal Impact Design Standards package is released. Encourage municipalities to adopt erosion control standards and stormwater management with

consideration of the design standards set forth in the MPCA Stormwater Manual and invite them to partner in the County's update process, if they wish.

Partners: ESD, SWCD, municipalities
Funding: Estimated Cost $2,000
Timeline: 2008-2017

6. Revise the design standards for projects requiring permanent storm water treatment calculations. In particular, allow flexibility in the calculations for controlling the discharge rates and storm water volumes to preserve areas of sensitive natural resources.

Partners: ESD, SWCD
Funding: Estimated Cost $5,000
Timeline: 2008-2017

7. The County will participate if the NPDES Pilot Program is reinstated. The County and SWCD will work toward establishment of an inspector position that is shared with the cities and townships.

Partners: ESD, SWCD, MPCA
Funding: Estimated Cost $300,000
Timeline: 2008-2017

8. The County will continue to participate actively in the Central Minnesota Water Education Alliance (CMWEA). CMWEA is a coalition made up of the County, MS4's, source water protection communities, lake associations and others that utilize civic engagement to promote water quality stewardship.

Partners: MS4's, public water suppliers, LA's, ESD, SWCD, WD's, MNDOT
Funding: Estimated Cost $150,000
Timeline: 2008-2017

Objective E. Better coordination of the County's stormwater efforts with the MS4 communities within the County.

1. The County will conduct civic engagement and outreach activities to promote the BMP's identified in the County's SWPPP. The issues to be addressed include illicit discharges, erosion control, stormwater control, shoreline management, and pollution prevention. Tools to be used include: establishment of a Stormwater Hotline to report violations; CMWEA; the Stearns Shoreland Workshop; and discussion during issuance of construction site permits, shoreland alteration permits and platting.

Partners: ESD, SWCD, CMWEA, Highway Department
Funding: Estimated Cost $15,000
Timeline: 2008-2017

2. County will provide public education and outreach on the hazards and environmental impacts of illicit discharge and elimination. A Stormwater Hotline for citizens to report illegal dumping will be set up.

Partners: Highway, ESD, SWCD
Funding: Estimated Cost $2,000
Timeline: 2008-2017

3. County will provide the opportunity for education of County staff on construction site run-off controls and other activities that may impact stormwater quality, including road salt and sand application and illicit discharge.

Partners: ESD, SWCD, Highway
Funding: Estimated Cost $12,000
Timeline: 2008-2017

4. Work cooperatively with local units of government for the purpose of minimizing development impacts and standardizing the specifications of their individual SWPPP's. Assistance will be offered to MS4 communities with their implementation of the minimum control measures of their SWPPP's.

Partners: SWCD, townships and municipalities
Funding: Estimated Cost $25,000
Timeline: 2008-2017

5. County staff to be trained to identify instances of illicit discharge while doing field work and will take corrective action.

Partners: ESD, SWCD, Highway Department
Funding: Estimated Cost $2,000
Timeline: 2013-2017

6. The Stearns County Water Management Plan supports the stormwater management plans adopted by municipalities within the County, i.e., "City of St. Cloud Stormwater Management Plan", "Surface Water Management Plan, Paynesville MN", "City of Cold Spring Comprehensive Surface Water Management Plan", "City of St. Joseph Stormwater Best Management Practices Plan", "City of Rockville Stormwater Best Management Practices Plan", and "City of St. Martin Stormwater Management Plan".

The reach of the Sauk River that receives storm water runoff from the City of St. Martin has median TSS and TP levels that are well over the typical range. Support is given to the City of St. Martin's initiative to develop a regional storm water treatment system intended to reduce the levels of TP and TSS entering the Sauk River.

Partners: SWCD, Paynesville, St. Cloud, Cold Spring, St. Joseph, Rockville, St. Martin, SRWD, NFCRWD
Funding: Estimated Cost $100

Timeline: 2013-2017

7. The Stearns County Water Management Plan supports the water quality initiatives identified in the lake and river management plans for the water resources of Stearns County.

Partners: SWCD, ESD, lake and river associations
Funding: Estimated Cost $100
Timeline: 2013-2017

Goal 3. Impaired Waters

Goal 3 is to address the issue of impaired waters and will require the following steps:

- determine the status of the County's water resources in relation to whether they can meet their designated uses
- improve those rivers, lakes, wetlands and streams that do not meet their designated uses
- protect those lakes, rivers, wetlands and streams that support their designated uses

Introduction to Amendments to the Priority Concern: Impaired Waters

Broad assessment of the County's water quality has been largely undertaken by the MPCA through its 10-Year Intensive Monitoring Program and will not be duplicated at the County level. However, it will still be necessary for monitoring to be done to pinpoint sources of contaminants on a subwatershed level.

Assistance to landowners implementing BMP's has been expanded from working land to rural property in general, provided that restoration and protection of water quality is the goal. Assistance will be provided to landowners for providing alternate water sources to livestock, allowing exclusion of livestock from lakes, streams and rivers. Assistance in dealing with pasture management will be offered to land owners.

It appears that there are numerous factors in the environment that may be having significant changes on hydrology, e.g. increased agricultural drainage, increased impervious surfaces, increased irrigation, wetland drainage and climate change. A goal will be to determine what effect changes in hydrology are having on specific watersheds. Monitoring of water quality and quantity and mapping of potential influences and results will be included. Project areas will be determined and prioritized based on water quality monitoring results and/or visual evidence of water quality problems. Project goals will be set based on recommended reductions of TMDL or targeted watershed studies.

Initiatives from approved TMDL Implementation Plans are included in the amended Plan; assistance will be given to the extent possible.

The major wetland regulatory programs in Minnesota are the DNR's Public Waters Work Permit Program, the Wetland Conservation Act, and the federal Section 404 permit program administered by the US Army Corps of Engineers. The Food Security Act of 1985, as amended, ("Swampbuster") also influences impacts to wetlands. These programs are administered by different agencies using differing approaches, but the end goal of all the programs is to preserve and protect the State's wetlands.

Several reports have been released recently estimating the amount of lost wetland. The study results vary, however, it is accepted that Stearns County has lost at least 50% of its wetlands since pre-settlement. Wetland losses continue for a number of reasons, including exemptions to the rules and non-compliance with regulation. Commodity prices continue to be high and there is pressure for agricultural producers to be more efficient. Both of these factors cause producers to use more of their fields for crop production, including areas that are wetland. The negative environmental effects of

wetland drainage for agricultural purposes can be potentially offset by the implementation of conservation drainage practices, such as saturated buffer strips, side inlet controls, wood chip bioreactors and 2-stage ditches.

Objective A. Assess the ability of the County's lakes, rivers and streams to meet its designated uses.

1. Coordinate and track water monitoring for the entire County.

   Partners: ESD, SWCD, Watershed Districts, City of St. Cloud, LA's
   Funding: Estimated Cost $50,000 to $100,000
   Timeline: 2008-2010 (MPCA Intensive Monitoring Program will accomplish this.)

2. Develop and annually review a priority list of lake, river and stream monitoring for each year's monitoring.

   Partners: ESD, SWCD, Watershed Districts, LA's, MPCA
   Funding: Estimated Cost $20,000
   Timeline: 2008-2010 (MPCA Intensive Monitoring Program will accomplish this.)

3. Seek funding for lake, river and stream monitoring and assessment.

   Partners: ESD, SWCD, Watershed Districts, LA's, MPCA
   Funding: Estimated Cost $10,000
   Timeline: 2008-2017

4. Create monitoring plans of waters.

   Partners: SWCD, ESD, Watershed Districts, MPCA, MN Waters, LA's
   Funding: Estimated Cost $25,000
   Timeline: 2008-2010 (MPCA Intensive Monitoring Program will accomplish this.)

5. Promote volunteer monitoring.

   Partners: Watershed Districts, SWCD, ESD, MN Waters
   Funding: Estimated Cost $20,000
   Timeline: 2008-2017

6. Carry out monitoring programs as needed for priority waters. Areas that have water quality concerns will be targeted by subwatershed, if possible, for monitoring, assessment and either protection or restoration.

   Partners: SWCD, ESD, Watershed Districts, MPCA, BWSR
   Funding: Estimated Cost $150,000

Timeline: 2008-2017

7. Submit surface water quality data to the MPCA annually to be entered into EQuIS.

   Partners: ESD, SWCD, Watershed Districts
   Funding: Estimated Cost $20,000
   Timeline: 2008-2017

8. Prepare a summary of surface and ground water quality monitoring data as required.

   Partners: ESD, SWCD
   Funding: Estimated Cost $5,000
   Timeline: 2008-2017

Objective B. Improve those water resources that are impaired and protect those that are not impaired. The purpose is to reduce pollutant loading so that all waters of Stearns County meet the State standards. Particularly for those projects that are voluntary, successful initiation and completion is dependent on strong project partners and priority will be given to practices done with strong project partners. Additional actions will be identified as TMDL studies are completed.

The Priority Concern that addresses Development Impacts contains action items that are directed towards non-agricultural erosion control and stormwater runoff management.

1. Provide information, technical and/or financial assistance to County landowners implementing BMP's on rural property.

   Partners: SWCD, MDA, NRCS, ESD, watershed districts
   Funding: Estimated Cost $500,000/year
   Timeline: 2008-2017

2. Work with urban and rural landowners on proper land application of nutrients and pesticides, including the promotion of P-free fertilizer and soil tests for residential use, to reduce nutrient loading to meet State water quality standards.

   Partners: SWCD, ESD, MDA, NRCS, U of MN Extension, WD's, LA's, CMWEA, SCSU, source water protection communities
   Funding: Estimated Cost $50,000
   Timeline: 2008-2017

3. Continue to inspect all feedlots, with an emphasis on feedlots in shoreland or with a direct connection to a water resource, work with owners/operators to bring facilities into compliance, and assess the potential impacts to surface water quality from open lot runoff. Data from

December 2012 indicates that of the 2428 active feedlots in the County, 411 feedlots are in shoreland. Of these 411, thirty-six are not in compliance. The goal is to reduce this number by 25% by the end of 2017.

Partners: ESD, SWCD, BWSR, MDA
Funding: Estimated Cost is $450,000
Timeline: 2008-2017

4. Seek funding and complete studies to determine what effect changes in hydrology are having on specific watersheds. Wetland drainage, tiling, ditching, irrigation, and increased impervious surface may be factors. Monitoring of water quality and quantity and mapping of the possible influences and results will be included. Work towards GIS mapping of the private tile and ditching projects (with landowner permission). Project areas will be determined and prioritized based on water quality monitoring results and/or visual evidence of water quality problems. Project goals will be set based on recommended reductions of TMDL or targeted watershed studies and may affect changes in hydrology on specific watersheds.

Partners: SWCD, watershed district, BWSR, ESD, DNR
Funding: Estimated Cost $5,000
Timeline: 2013-2017

5. Assist landowners with the adoption and implementation of comprehensive nutrient management practices. From 2008-2012 there was an average of 20,000 acres per year brought into nutrient management plans. The goal is to bring 20,000 acres per year into nutrient management plans.

Partners: SWCD, MDA, NRCS, WD's, ESD
Funding: Estimated Cost $50,000
Timeline: 2008-2017

6. Ensure the proper use and abandonment of manure pits for the protection of ground water and surface water resources.

Partners: SWCD, ESD, MDA, NRCS, WD's
Funding: Estimated Cost $350,000
Timeline: 2008-2017

7. Continue to inspect feedlots and work with owner/operators to reduce the pollution potential. Data from December, 2012 indicates that of the 2428 active feedlots in the County, 289 were found to be non-compliant. Approximately 20 sites have been fixed each year. The goal is to reduce the number of non-compliant sites by 25% by the year 2017. Of highest priority are those that have the greatest potential to negatively impact water resources.

Partners: ESD, SWCD, MDA

Funding: Estimated Cost $2,500,000
Timeline: 2008-2017

8. Areas within impaired watersheds will be targeted for wetland restoration or other appropriate BMP's to increase storage capacity and to reduce nutrient loading.

Partners: SWCD, NRCS, Ducks Unlimited, DNR
Funding: Estimated Cost $20,000
Timeline: 2008-2017

9. Support and cooperate with Watershed Districts, the MPCA and BWSR on ongoing TMDL projects.

Partners: SWCD, ESD, Watershed Districts, MPCA, DNR
Funding: Estimated Cost $50,000
Timeline: 2008-2017

10. Seek ways to engage all citizenry in the County in the value of natural resources. This may be partially through environmental educational festivals for children of one grade. The development of a County/regional Natural Resources Learning Center will be explored. A comprehensive list of all current environmental education opportunities will be compiled and made available.

Partners: SWCD, ESD, Watershed Districts, U of MN Extension Service, County Parks Department, College of St. Benedict, St. John's University, SCSU
Funding: Estimated Cost $100,000
Timeline: 2008-2017

11. Work with and provide information to feedlot owners and operators on natural resource management techniques, including manure storage and application. Tools to be used are field days, flyers, classes and mailings.

Partners: ESD, SWCD, MDA, NRCS, U of MN Extension Service
Funding: Estimated Cost $50,000
Timeline: 2008-2017

12. Actively promote and market federal/state/local conservation programs to targeted landowners and help prepare them for eligibility in programs such as CSP, CRP, EQIP and other conservation programs as they arise.

Partners: SWCD, MDA, NRCS, U of MN Extension Service
Funding: Estimated Cost $50,000
Timeline: 2008-2017

13. Establish vegetative buffers on public and private ditches, streams, lakes, wetlands and tile inlets for the purpose of water quality. Areas of highest priority will be determined based on topography, land use, highly erodible soil, etc. The goal is to complete three vegetative buffer projects each year.

Partners: SWCD, ESD, Watershed Districts, NRCS, Pheasants Forever
Funding: Estimated Cost $100,000
Timeline: 2008-2017

14. Establish and maintain stream and field vegetative buffers in the shore impact zone of public waters lakes and streams in accordance with existing Stearns County Land Use and Zoning Ordinance #439, Section 10.2.19 and MN Rules 6120.3300 Subpart 7. General cultivation farming, grazing, nurseries, horticulture, truck farming, sod farming, and wild crop harvesting are permitted if steep slopes and shore and bluff impact zones are maintained in permanent vegetation or operated under an approved conservation plan (Resource Management Systems) consistent with the field office technical guides of the local NRCS or as provided by a qualified individual or agency. The shore impact zone for parcels with permitted agricultural land uses is equal to a line parallel to and 50 feet from the ordinary high water level. As of 2013 there are 105 acres of CRP within 120 feet of public waters. The goal is to add an average of 20 acres of vegetative buffers along public waters per year.

Partners: SWCD, ESD, Watershed Districts, NRCS, DNR
Funding: Estimated Cost $100,000
Timeline: 2008-2012

15. Activate Conservation Marketplace Midwest for the purpose of achieving water quality improvement.

Partners: MPCA, SWCD, ESD, WD's, LA's public water suppliers, CMM
Funding: Estimated Cost $500,000
Timeline: 2008-2017

16. Promote conservation drainage best management practices such as saturated buffer strips, woodchip bioreactors, side-inlet controls and two-stage ditches by utilizing existing research and promoting through existing local programs. The Pelican Lake of St. Anna Clean Water Partnership Study found that implementation of conservation drainage BMP's should be a priority in that area.

Partners: SWCD, NRCS, watershed districts
Funding: Estimated Cost $25,000
Timeline 2013-2017

17. Assist landowners with pasture management and help them to establish practices that provide an alternate water source to livestock, allowing exclusion of livestock from lakes, streams and rivers. Priority areas are pasture areas located in shoreland.

Partners: NRCS, SWCD

Funding: Estimated Cost $50,000
Timeline: 2013-2017

18. Work with landowners to implement erosion control projects, such as the establishment of native vegetation and/or soil stabilization, which will protect/restore water quality and also have other ecosystem services including wildlife habitat value.

Partners: SWCD, NRCS
Funding: Estimated Cost $25,000
Timeline: 2013-2017

19. Due to the increase in waters that are found to be impaired for *E. coli*, support will be given for State and local agencies to address this impairment. Funding will be sought for additional field analyses to identify *E. coli* sources and for project implementation to correct the problem.

Partners: watershed districts, MPCA, SWCD
Funding: Estimated Cost $1000
Timeline: 2013-2017

20. Assist the Clearwater River Watershed District in the implementation of the Clearwater River TMDL and Clearwater Chain of Lakes TMDL. Priority activities include:

- Agricultural BMP's, such as vegetated buffers, feedlot upgrades and riparian management
- BMP's to decrease runoff and increase stormwater treatment in urban, residential and lakeshore areas.
- Shoreline restoration to improve runoff filtration/infiltration.
- Sedimentation ponds
- Replacement of tile intakes with filters and tile intake buffers
- Lakeshore septic upgrades
- Riparian grazing/pasturing

Partners: CRWD, SWCD, MDA, BWSR, DNR
Funding: Estimated Cost $100,000
Timeline: 2013-2017

21. Assist the Sauk River Watershed District in implementation of the Getchel, Unnamed, Stoney TMDL. Priority activities are:

- Vegetative practices such as contour farming, strip cropping, grassed waterways, grass filter strips for feedlot runoff, Alternative crop rotation, Field windbreaks, and Pasture management
- Primary tillage practices such as Chisel plow, one-pass tillage, ridge till, sustaining surface roughness
- Structural practices such as wetland restoration, livestock exclusion, and liquid manure waste facilities

Partners: SRWD, SWCD, MDA, BWSR, DNR
Funding: Estimated Cost $100,000
Timeline: 2013-2017

22. Assist Sauk River Watershed District with Mill Creek TMDL. Pollutant sources of greatest concern and tools to reduce pollutant sources are:

- Riparian pasture; tool is exclusion of livestock from streams and stream banks
- Surface applied manure; tools are filter strips, buffer zones separating manure stockpiles from surface waters or drainage systems, liquid manure storage and incorporation
- Runoff from feedlots without runoff controls; feedlot upgrades
- Subsurface sewage treatment systems that are out of compliance; SSTS upgrade

Partners: SRWD, SWCD, MDA, BWSR, DNR
Funding: Estimated Cost $100,000
Timeline: 2013-2017

23. Assist Sauk River Watershed District with implementation of Pearl Lake TMDL. Priority activities include:

- Public education on water quality issues
- All development projects should be designed to maintain or improve hydrology and pollutant loading
- Low impact development should be incorporated into all plans for redevelopment, or expansion of infrastructure, or street replacement projects
- An assessment of the ditch cleaning activities, along with a review of BMP's, should be completed and evaluated. Use of nutrient traps or settling basins should be explored
- Elimination of livestock access to riparian areas and waterways
- Soil testing and manure management
- Educational campaign focused on septic maintenance
- Evaluation of the creation of a Sanitary Sewer District for Pearl Lake

Partners: SRWD, SWCD, MDA, BWSR, DNR
Funding: Estimated Cost $100,000
Timeline: 2013-2017

24. Assist North Fork Crow River Watershed District with implementation of Rice Lake TMDL. Priority activities are:

- Evaluation of wetlands and protection of high priority wetlands
- Increase filtration and infiltration through large-scale filtration areas, removal of tile lines, additional buffers, vegetated swales

- Manure management plans including immediate incorporation of manure into topsoil, reduction of winter spreading, especially on slopes, elimination of spreading near open tile inlets and sensitive areas, and erosion control through conservation tillage and vegetated buffers
- Fencing livestock from surface waters, rotational grazing
- Buffer projects between grazing land and surface water
- Soil testing to help determine spreading rates for septage, animal waste and chemical fertilizers
- Working with landowners to upgrade non-conforming SSTS
- Restoration of shorelines
- Elimination of feedlot runoff
- Tile intake buffer demonstration projects.

  Partners: NFCRWD, SWCD, MDA, BWSR, DNR
  Funding: Estimated Cost $100,000
  Timeline: 2013-2017

25. Seek funding and complete studies to determine the most effective hydrologic changes. Also address related nutrient impacts from similar watershed sources. Use conservation practices that can be implemented to address excess water/flooding issues and nutrient loading in the Two River Lake minor watershed. The implementation of conservation practices to store water on the landscape and achieve water quality goals is a priority in this watershed.

Partners: SWCD, ESD, DNR
Funding: $10,000
Timeline: 2013-2017

Amended Ongoing Programs

Water quality concerns in the County continue to be addressed by a variety of ongoing programs. The programs that were in place in 2008 can be found in the *Stearns County Local Water Management Plan 2008-2017*, found in the Appendix. Following are new programs and changes that have occurred to existing programs.

Conservation Marketplace Midwest

This is a new program that is being developed by the Stearns County Soil and Water Conservation District and other partners. The purpose is to increase conservation adoption by stacking appropriate credit payments from ecosystem service buyers. Stacking credits payments creates a cost efficient and effective method for sustaining desired land uses that provide multiple ecosystem benefits.

NPDES

The National Pollution Discharge Elimination System (NPDES) is a national program which is designed to prevent sediment and pollution from entering surface and groundwater. NPDES regulates the sediment and erosion resulting from construction activities which disturb over one acre of land, industrial facilities, and stormwater discharge of communities that meet a designated population threshold. Stearns County entered into an agreement with the MPCA to assist with the implementation of the NPDES General Stormwater Permit for Construction Activity within the County. This agreement expired in June, 2009. At this time the NPDES inspections are done by MPCA staff on a complaint basis.

Water Management Planning

The Stearns County Water Management Plan Advisory Committee was dissolved in 2012. Task Forces were convened to develop this amended implementation plan and will be reconvened on an annual basis to review progress in achieving Plan objectives and to identify emerging issues that should be incorporated into the Plan through the amendment process. The Stearns County Planning Commission was appointed to be the reviewing body for the amended Water Management Plan.

Appendix

1 - Priority Concerns Scoping Document

2- Stearns County Local Water Management Plan 2008-2017

3- Summary of Activities which Furthered the Accomplishment of the Goals of *Stearns County Local Water Management Plan 2008-2017*

4- Map of 2012 Draft List of Impaired Waters